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SECRETARY OF THE AIR FORCE

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62nd AIRLIFT WING
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TRANSPORTATION

PRESERVATION AND PACKING

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 24-2, *Preparation and Movement of Air Force Materiel*. It prescribes and explains how to properly preserve and pack materiel during shipment, handling and storage. This instruction covers the procedures and standards that govern military packaging. MIL-STD-2073-1, *Standard Practice For Military Packaging*, is to be required only when applicable commercial packaging cannot meet known operational logistics and environmental requirements. Additionally, this policy applies to all Air Force personnel who prepare, certify, handle, ship and store materiel. Proper preservation and packing maximizes the life cycle of materiel to accomplish mission support objectives.

(62AW) AFI 24-202, *Preservation and Packing*, 5 September 2003, is supplemented as follows: This supplement establishes the base Reusable Container Program and applies to all units assigned or attached to McChord AFB who receive, ship, or store property in reusable containers. This supplement applies to Air National Guard and Air Force Reserve units.

SUMMARY OF REVISIONS

This policy revision incorporates the Air Force Traffic Management Office (TMO) Reengineering Team's recommendations for realignment of the USAF Reusable Container Program (RCP) management roles and responsibilities from MAJCOMS to Wing-level and packaging services reimbursements and transfer of funds. This change will provide Wing commanders direct control and greater flexibility to manage their programs so they can adapt it to specific mission requirements; includes guidance on reimbursements and transfer of funds expended to replace lost or destroyed reusable containers, labor, shipping and handling costs; includes guidance on processing AF Form 451, **Request for Packaging Services**, AF Form 406, **Miscellaneous Obligation Reimbursement Document (MORD)**, AF Form 616, **Fund Cite Authorization**, for packaging services payment accountability; increases responsibilities for Installation and Unit

RCP monitors; establishes Installation recovery sites for excess serviceable reusable containers and packing materials; establishes Installation recycling sites for unserviceable reusable containers and packing materials; eliminates the requirements to maintain hard copy Special Packaging Instructions (SPIs) and perform SPI reconciliation at Base-level; clarifies how to identify and request SPIs by accessing the Special Packaging Instructions Retrieval & Exchange System (SPIRES); adds European Union (EU) restrictions on coniferous non-manufactured wood packaging materials; updates, clarifies, organizes and streamlines previous guidance on preservation and packing practices; and adds safety and operational risk management guidelines.

Chapter 1

ROLES AND RESPONSIBILITIES

1.1. Uniform Procedures. Joint Service Publication AR 700-15/NAVSUPINST 4030.28D/AFJMAN 24-206/MCO 4030.33D/DLAD 4145.7, *Packaging of Materiel*, establishes uniform procedures for packaging Department of Defense (DOD) materiel. Use Air Force packaging procedures in accordance with joint directive AFJMAN 24-206, AFPD 24-2, and this instruction.

1.1.1. **Levels of Packing.** DOD established two levels of packing: A and B. These packing levels, defined in MIL-STD-2073-1 and AFJMAN 24-206, guide military components and their commercial industry suppliers in determining the required protection. **Attachment 2** provides a table of common applications for the levels of packing.

1.2. Responsibilities.

1.2.1. Air Force Materiel Command (AFMC). Memorandum of Agreement (MOA) between HQ USAF/ILG and HQ AFMC/LG provides for the efficient use of HQ USAF and HQ AFMC resources to accomplish the formulation and implementation of Air Force packaging policy, procedures and processes.

1.2.1.1. HQ USAF/ILG retains sole authority to establish or modify packaging policy.

1.2.1.2. HQ USAF/ILGD is the Air Staff agent for the functional aspects of this agreement and HQ AFMC Logistics Support Office (LSO) is the HQ AFMC/LG MOA agent for this agreement.

1.2.1.3. HQ AFMC LSO provides packaging expertise for acquisition and sustainment logistics support of weapon systems, equipment and munitions. HQ AFMC/LGTT publishes the AFMC Instruction (AFMCI) 24-201, *AFMC Packaging and Materials Handling Policies and Procedures,* which provides detailed responsibilities of AFMC activities. HQ AFMC LSO/LOP, Air Force Packaging Technology & Engineering Facility (AFPTEF), provides the Department of the Air Force and other DOD activities with packaging engineering and test capabilities. **Attachment 6** defines AFPTEF roles and responsibilities.

1.2.2. Major Commands (MAJCOMS).

1.2.2.1. Direct subordinate activities in packaging and traffic management, develop instructions based on policy directives, AFIs, public law, international agreements, mission requirements and provide guidance as necessary.

1.2.2.2. As required, perform staff assistance visits and review staff assistance reports for trends and/or problems requiring attention.

1.2.2.3. Staff and provide responses to items forwarded by Intermediate Command, functional area units, or other agencies.

1.2.2.4. As required, provide assistance to base-level units in establishing an effective Reusable Container Program (RCP).

1.2.3. Installation/Unit Personnel.

1.2.3.1. Installation Commanders designate a senior logistics officer to monitor the base RCPs (normally, the Chief, Distribution Flight). The Installation Commander shall publish detailed pro-

cedures for control, recovery, re-use, reimbursement, transfer of funds and disposal of packaging materials and containers. Procedures shall identify how base activities will fund shipping, packaging materials and labor costs and how Logistics Readiness Squadron (LRS) Distribution Flight must be reimbursed for services rendered for packing, crating, shipping and handling costs.

1.2.3.1. (62AW) The 62 Logistics Readiness Squadron (LRS) /Cargo Movement Section Chief is designated as the base Reusable Container Program Manager. The Cargo Movement Section Chief will:

1.2.3.1.1. (Added-62AW) Chair the meetings of the Reusable Container Council at least annually or as required to evaluate and maintain overall program integrity. The council shall consist of the base Reusable Container Manager and Monitors from all major shipping activities.

1.2.3.1.2. (Added-62AW) Provide guidance as needed to ensure the base program remains a highly visible working program.

1.2.3.1.3. (Added-62AW) Monitor the program's effectiveness and identify program abusers to the 62d Logistics Readiness Squadron commander (62 LRS/CC).

1.2.3.1.4. (Added-62AW) Provide advisory service to using activities on the care, control, identification, and storage of Special Packing Instructions (SPI) reusable containers. The wing reusable container consolidated storage area is Building 1418.

1.2.3.1.5. (Added-62AW) The 62d Airlift Wing minimum standard for SPI reusable container is 90%. If the monthly return rate is below 90%, a letter will be forwarded to the unit commander for corrective action.

1.2.3.1.6. (Added-62AW) Provide all units a monthly Reusable Container Analysis report (**Attachment 9 (Added)**).

1.2.3.2. Unit commanders will appoint responsible individuals (primary and alternate) by memorandum to monitor the RCP within their organization and forward a copy to the LRS Distribution Flight. This memorandum of appointment must contain the names and duty phone numbers of the RCP monitors and will be updated annually or as required due to changes in personnel. The unit RCP monitors and alternates are authorized to sign AF Form 451.

1.2.3.2.1. Unit commanders shall emphasize recovery and re-use due to high maintenance cost and depleted inventory level requirements of reusable containers and packing materials.

1.2.3.3. Installation RCP monitors or their designated representatives shall ensure that all activities that receive, store, issue or ship government materiel:

1.2.3.3.1. Implement procedures for control, recovery and re-use of reusable containers, packaging materials, reimbursement or prior transfer of funds for packaging costs.

1.2.3.3.2. Emphasize the control, recovery and re-use of specially designed containers and packaging systems.

1.2.3.3.3. Ensure units appoint RCP monitors to establish and execute a viable, effective program. Units that utilize fewer than three (3) SPIs (excluding fastpack containers) have the option not to have a unit RCP at the discretion of the Installation RCP monitor.

1.2.3.3.4. Preserve and pack all items, regardless of condition, to prevent deterioration and damage.

1.2.3.3.5. Ensure the LRS Distribution Flight and the receiving or using units recovers and re-uses active government owned short/long-life reusable containers and other specialized containers (FSC 8115, 8140 and 8145) that are accounted for by Distribution, Engine and Munitions accounts.

1.2.3.3.6. Ensure the proper training of personnel assigned to the LRS Distribution Flight to ensure items are received in correct containers.

1.2.3.3.7. Provide informal guidance to personnel assigned to non-transportation functions (e.g., maintenance and other host/tenant units) to execute and maintain an effective base RCP.

1.2.3.3.8. Identify procedures and responsibilities for recovering, screening and storing reusable containers and packaging materials. Ensure that reusable containers are separated from refuse and supply pickup sites.

1.2.3.3.9. Identify procedures for obtaining reusable containers and packaging materials from storage or salvage areas and for screening and disposing of excess/surplus containers.

1.2.3.3.10. Use AF Form 451, **Request for Packaging Services**, when the proper SPI container cannot be located for shipment of an asset, or for requests for local fabrication of SPI containers for shipments without a required SPI pack.

1.2.3.3.11. Process AF Forms 451 received from units. Annotate Distribution Flight packaging materials and labor expenditures for direct packaging services payment accountability. All shipping and packaging materials costs incurred are subject to reimbursement or prior transfer of funds to procure packaging materials before shipment turn-in to transportation. AF Form 451 must accompany all items turned-in to Distribution without prescribed SPI containers. See **Attachment 3** for guidelines in preparing AF Form 451.

1.2.3.3.12. Process the AF Form 406, **Miscellaneous Obligation Reimbursement Document (MORD)**, AF Form 616, **Fund Cite Authorization**, DD Form 448, **Military Interdepartmental Purchase Requests (MIPR)** and Government Purchase Card (formerly IMPAC) accounts for units requesting special packaging services.

1.2.3.3.13. Maintain a list of unit RCP monitors and alternates authorized to sign AF Form 451.

1.2.3.3.14. Maintain an effective damage control program. Require prompt reporting of packaging deficiencies IAW AFJMAN 23-215, *Reporting of Supply Discrepancies*. Investigate reported packaging deficiencies to determine the cause. Correct procedures to prevent recurrence (see **Chapter 8**).

1.2.3.3.15. Establish a reusable container working group to meet annually, or as needed, to coordinate actions, analyze budgetary and operational requirements, address deficiencies and recommend corrective action and packaging improvements to increase the efficiency of base operations. See paragraph **6.20.13.** for additional guidance.

1.2.3.3.16. Identify and establish procedures for recovery, re-use and transfer and reimbursement of funds under the reusable container program, including review of AF Forms 451, Standard Form 364, *Supply Discrepancy Report*, and requests for SPI packs and SPI waiver authority to deviate. NOTE: Calculating an overall percentage of reusable containers received or reshipped may not reflect the efficiency of the reusable container program.

1.2.3.3.17. Reimbursements on reusable containers shall be tracked monthly and reported quarterly for fiscal purposes to accounting and finance and the unit(s) incurring the costs.

1.2.3.3.18. Indicate container type, size and location on the inventory list.

1.2.3.3.19. Identify possible excess reusable containers and ensure RCP compliance by performing annual inspections of units.

1.2.3.3.20. Identify excess reusable containers on the Distribution Flight Packing and Crating (P&C) record that are to be recovered, re-used and reissued to the appropriate account(s) (i.e., engines or munitions) for redistribution. Complete details are in paragraphs **6.18.** and **6.19.**

1.2.3.3.21. Relocate excess serviceable reusable containers for lateral support to maintenance, supply storage locations, tenant/host units or other MAJCOM activities, where needed.

1.2.4. Unit Reusable Container Program (RCP) Monitor will:

1.2.4.1. Implement the RCP concepts and procedures herein.

1.2.4.2. Monitor the organization's RCP, ensuring compliance with this instruction and local supplements.

1.2.4.3. Coordinate with the installation RCP monitor for assistance in resolving problems pertaining to the program.

1.2.4.4. Contact the LRS Distribution Flight P&C section if Special Packaging Instructions (SPI) requirements cannot be met.

1.2.4.5. Ensure sufficient storage space is available for reusable containers for items in their possession. Contact LRS Distribution Flight P&C section for disposition instructions after identifying excess serviceable reusable containers, if storage space is unavailable. Schedule turn-in of excess serviceable reusable containers to the Distribution Flight for staging/re-use.

1.2.4.6. Approve and sign AF Forms 451 pertaining to packaging services and reusable containers. Ensure all items on the form are properly completed.

1.2.4.7. Upon receipt of the item from Distribution, ensure the required container is available. If the item is received without the required container, annotate on the issue document "No SPI container available."

1.2.4.8. When an item is removed from the assigned reusable container, place the repairable item immediately in the same container for turn-in to Distribution.

1.2.4.9. Store items in their assigned reusable containers until installed or required for bench check or inspection.

1.2.5. Radiation Safety Officer (RSO). The RSO has overall administrative responsibility for ensuring the proper receipt, use, storage, and disposal of all radioactive materials in accordance with provisions of AFI 40-201, Managing *Radioactive Materials in the U.S. Air Force*, and TO 00-110N-2, *Radioactive Waste Disposal.*

1.2.6. The Chief, Distribution Flight shall:

1.2.6.1. Organize, program and manage transportation resources to include host, tenant and geographically separated unit support agreements for transportation and funding support.

1.2.6.2. Act as the single materiel movement manager for the facility, empowered with authority to complete assigned missions.

1.2.6.3. Properly package, mark and label radioactive waste according to TO 00-110N-2.

1.2.6.4. Comply with AFMAN 24-204(I), *Preparing Hazardous Materials for Military Air Shipments,* and Title 49 Code of Federal Regulations (CFR).

1.2.6.5. Ensure proper training is provided to subordinates to safely load, unload, handle, store, package and transport hazardous materials.

1.2.6.6. Provide advice to Air Force contracting offices on transportation language for the efficient and economical movement of materiel from contractor and vendor sources of supply to the contracted destination.

1.2.7. Managers and Supervisors. Comply with guidelines set forth in the Air Force Reusable Container Program (RCP), Occupational Safety and Health Association (OSHA) and Operational Risk Management (ORM) guidelines outlined herein.

1.2.8. (Added-62AW) The host and associate unit commander will:

1.2.8.1. (Added-62AW) Be familiar with the purpose, goals, and importance of the Reusable Container Program.

1.2.8.2. (Added-62AW) Appoint a unit Reusable Container Monitor and Alternate in writing.

1.2.8.3. (Added-62AW) Forward the letter of appointment to the 62 LRS Cargo Movement Section (62 LRS/LGRDC).

1.2.8.3.1. (Added-62AW) Letters must contain the name, grade, duty phone, and functional address symbol.

1.2.8.4. (Added-62AW) Select individuals who are responsible and able to address the issues of the program to all concerned.

1.2.8.5. (Added-62AW) Ensure appointment letters are updated as changes occur.

1.2.8.6. (Added-62AW) Ensure the unit Reusable Container Program Monitor or Alternate attends the base Reusable Container Council meetings and is prepared to address areas of concern.

1.2.9. (Added-62AW) The 62d LRS Material Management Section (62LRS/LGRDM) will:

1.2.9.1. (Added-62AW) Ensure reusable containers are not lost, damaged, or destroyed while under Material Management's control. This includes component parts of container systems.

1.2.9.2. (Added-62AW) Ensure items are issued to using activities in the proper reusable container. In those instances when items are issued without the proper container, the following actions must be taken:

1.2.9.2.1. (Added-62AW) If the container is missing or destroyed, an **AF Form 451**, **Request for Packaging Services**, will be prepared in three copies IAW the instructions in **Attachment 3**.

1.2.9.2.2. (Added-62AW) Ensure inbound personnel are trained in identifying reusable containers and know where reusable container numbers are located on shipping documents, **DD Form 1348-1A**, **Issue Release/Receipt Document**.

1.2.9.3. (Added-62AW) Require storage personnel to ensure items have proper containers or issue an AF Form 451. SPI numbers are not to be removed or obliterated from reusable containers.

1.2.9.4. (Added-62AW) Ensure all items received from other installations without the required containers have an SF Form 364, Report of Discrepancy, prepared and submitted.

1.2.10. (Added-62AW) The Base Reusable Container Council will:

1.2.10.1. (Added-62AW) Be composed of the 62d LRS Commander or designated representative, the Cargo Movement Section Chief, and all appointed unit Reusable Container Managers and Alternates.

1.2.10.2. (Added-62AW) Ensure minutes of the meetings are published and distributed to council members through their commanders.

1.2.11. (Added-62AW) The Unit Reusable Container Monitors and Alternates will:

1.2.11.1. (Added-62AW) Maintain an effective damage control program.

1.2.11.2. (Added-62AW) Provide informal guidance to assigned personnel to maintain an effective Unit Reusable Container Program.

1.2.11.3. (Added-62AW) Ensure the unit Reusable Container Monitor or Alternate attends the Reusable Container Council meetings.

1.2.12. (Added-62AW) The Outbound Element will:

1.2.12.1. (Added-62AW) Inventory and give credit to units turning in reusable containers using the Reusable Container Inventory worksheet (**Attachment 8 (Added)**).

1.2.12.2. (Added-62AW) Check items turned in for shipment without the proper reusable containers against the Reusable Container Inventory to either give credit or charge the unit for not having the required container.

1.2.12.3. (Added-62AW) Use the Cargo Movement Operating System to manage the Reusable Container Program.

Chapter 2

PACKAGING OPERATIONS

2.1. Operations in General. The size and mission of an activity determines the required size of base packaging facilities and the type, kind, and amount of equipment needed to package material. Locate the packaging areas near the shipping or supply processing area.

2.2. Facilities. Each activity must have the basic facilities and equipment to package items that are:

2.2.1. Opened for periodic inspections.

2.2.2. Received inadequately packaged for storage.

2.2.3. Shipped off-base, including redistribution or return of declared excesses and return of reparable items to a Technology Repair Center (TRC).

2.3. Authorization of Equipment. Table of Allowance (TA) 874, part C, authorizes the cleaning, drying, preserving, packing, and marking equipment authorized for base-level packaging operations. Authorization and funding for conveyer or other mechanized materials handling equipment are subject to AFMAN 23-110, *USAF Supply Manual*, volume VII, part one, which also explains how to request assistance in analyzing and recommending improvements in materials handling methods and systems installations.

2.4. Packaging Line Layout. Materiel flows from work station to work station according to the sequence of packaging operations, regardless of the size of the operation and should include:

2.4.1. An area for receiving, inspecting, and identifying material.

2.4.2. An administrative and work-process planning area for reference materials, such as Technical Orders (TOs), SPIs, specifications, standards, and related distribution publications.

2.4.3. A materials storage and supply area for maintaining bench stock preservative and packaging supplies and recycled containers (other than unit-stored reusable containers).

2.4.4. An industrial equipment area for fabricating bags, boxes, crates, printing labels and tags, and for feeding supplies (like tapes and adhesives) into the packaging line.

2.4.5. A cleaning, drying, and preserving area.

2.4.6. A unit packing area large enough to handle variable workloads.

2.4.7. An area for containerizing and packing oversized materiel that cannot be handled in the unit packing area. This area must contain or be located near the woodworking machinery and be accessible to mechanized materiel handling equipment.

2.4.8. At least one electrostatic discharge (ESD) protective work station where trained personnel can package sensitive (ESDS) items. This must include a conductive work surface and personnel grounding devices. TO 00-25-234, *General Shop Practice Requirements for Repair, Maintenance, and Test of Electronic Equipment*, contains detailed information about ESD protective work stations. Post signs prohibiting entry of unauthorized personnel and static-producing materials in areas designated for packaging ESDS items.

2.4.9. An area for hazardous materials, if necessary, depending on the types of hazardous materials handled at the base.

2.5. OSHA and AFOSH Standards . Ensure that health and safety standards are consistent with applicable Occupational Safety and Health Act (OSHA) and Air Force Occupational Safety and Health (AFOSH) standards when planning the type and layout of facilities and equipment. See **Chapter 10** for guidelines.

Chapter 3

PRESERVING SUPPLY AND EQUIPMENT ITEMS

3.1. Preservation in General. All items (serviceables, repairables, etc.) placed in storage or shipped to another activity (including depot) must be preserved to prevent deterioration from corrosion, mildew, decay, and mold to protect from attack by microorganisms, vermin, or rodent. Packaging must prevent damage or harm to items during storage, issue or transfer.

3.1.1. Selecting the Method of Preservation. A Special Packaging Instruction (SPI) or Technical Order (TO) prescribing a method of preserving a particular item or group of items takes precedence over general guidelines. When you have no specific instructions, use the tables in MIL-STD-2073-1 to select the method of preservation and the container.

3.1.1.1. Preservation methods are standardized. These methods have become generally known as Method 10 (physical protection), Method 20 (preservative coating only), Method 30 (waterproof protection), Method 40 (watervaporproof protection) and Method 50 (watervaporproof protection with desiccant). Refer to MIL-STD-2073-1 for complete details on these methods of preservation, general requirements and suggested methods of application.

3.1.2. Preserving Items for Shipment or Storage. When preserving items for shipment or storage:

3.1.2.1. Clean and dry all items by any suitable process that does not harm the item before applying preservation techniques.

3.1.2.2. Use a preservative, when required, whose application, use, or removal will not damage the item or impair item function. For example, do not use petroleum-based preservatives on rubber or fabric products. Directly after cleaning and drying of the item, the required preservative shall be uniformly applied by any appropriate procedure that permits the preservative to coat all necessary surfaces.

3.1.2.3. Properly cushion, block, or brace the item in the unit container.

3.1.2.4. If the item is to be exposed directly to precipitation, an over-wrap of barrier material should be used, otherwise any other method of supplying physical protection will be sufficient.

3.1.2.5. Ensure that all materials used in cleaning, drying, preserving, wrapping, cushioning and packaging are clean and free from defects.

3.2. Electrostatic Discharge (ESD) Sensitive Items. Never handle Electrostatic Discharge Sensitive (ESDS) items, regardless of condition, without their protective packaging except at a grounded ESD workstation. TO 00-25-234, Section VII, Electrostatic Discharge Control, provides specific guidelines for protecting electrical and electronic parts, assemblies, and equipment. It also contains guidance on ESD protective workstations. SPIs specify packaging requirements for ESD depot repairables. For complete systems "Black Box" items, follow the guidance outlined in TO 00-25-234.

3.2.1. Use care in opening ESD items. ESD bags are usually constructed with enough extra material to allow for at least one additional heat seal, thereby facilitating re-use in the maintenance activity.

3.2.2. Identify ESD items by Type Cargo Code 3 on DD Form 1348-1A, **Issue Release/Receipt Document**, and by special interior and exterior markings. These markings may include the yellow sensi-

tive-electronic-device caution label or symbol. You do not need to repackage ESD items packaged before 1 November 1983.

3.3. Hazardous Materials and Regulated Articles. Hazardous materials must be preserved, packed, and marked according to the applicable directives specified in paragraph **5.4.** for hazardous materials and paragraph **5.4.4.** for hazardous waste. Unitization procedures in this document do not apply to the materials regulated by AFMAN 24-204(I).

3.4. Repairable Items. You must give repairable items the prescribed packaging protection requirements to prevent damage or deterioration during intrabase handling and shipment to the ALC depot or TRC. When moving reparable items between bases, transport them in the assigned container, specified SPI pack or equivalent handling device.

Chapter 4

PACKING SUPPLY AND EQUIPMENT ITEMS

4.1. How to Pack. Pack single items according to the applicable Special Packaging Instruction (SPI) or Technical Order (TO). SPIs offer superior protection of expensive, mission critical materiel. When consolidating two or more line items in a single container, place the heaviest or most dense items in the bottom. Avoid packing light, fragile items in the same pack with heavy, rugged items. Arrange the contents of the pack to provide the greatest protection to the interior packages.

4.2. Guidance Sources for Packing. A SPI, TO, or other document takes precedence over general instructions that provides detailed blocking, bracing, cushioning and packing guidance for a particular item or category of items. SPI requirements take precedence over TOs or other documents. If a SPI or TO does not provide specific guidance, use:

4.2.1. MIL-STD-2073-1 to select the unit and intermediate containers, preservation, wrap, cushioning and dunnage requirements.

4.2.2. TO 00-85-B-3, How *to Package Air Force Spares*, which provide fast pack(s) details on packing.

4.3. Packaging Return Shipments. Cushion, block, and brace each reparable return in an individual pack. Give the item the same degree of mechanical protection it had in the original or replacement part package to prevent further damage.

4.3.1. When feasible, use the replacement part package to repackage the repairable item for return shipment. If a TO or SPI contains packaging instructions, comply with the applicable document.

4.4. Uncrated Shipments. Crate most items to facilitate handling and item protection. A qualified carrier certified to transport uncrated items may ship uncrated those large items that require special handling. Obtain lists of qualified carriers from Military Traffic Management Command (MTMC) area offices. You may load packaged items in a vehicle partly filled with uncrated items.

4.4.1. Criteria for Large Items. Activities may ship large items, unless otherwise specified by an SPI or palletized unit load marking drawings, uncrated if all of these criteria apply:

4.4.1.1. The cost of packaging and shipping by other means would cost more than shipping the item uncrated.

4.4.1.2. The item is capable of withstanding shipment uncrated. Parts that are highly susceptible to damage must be removed from the major component and packaged properly. Then firmly attach these parts to the unit being shipped before releasing it to the carrier.

4.4.1.3. Qualified carriers are available to handle the shipment.

4.4.1.4. The item does not have a security classification that requires packing or crating to prevent disclosure to unauthorized personnel.

4.4.1.5. The item is not hazardous cargo as classified by AFMAN 24-204(I), the Department of Transportation (DOT) or other Federal regulatory policy.

4.4.1.6. MTMC approves and authorizes the shipment, if required by DOD 4500.9-R, *Defense Transportation Regulation*.

4.5. Unitization of Cargo. Pack Air Force cargo into units (unitize) at the source of shipment when practical. The unitization policies in this section do not apply to hazardous materials regulated by AFMAN 24-204(I).

4.5.1. Palletized Loads**.** Unless otherwise specified, palletize material when:

4.5.1.1. Containers do not require skids.

4.5.1.2. Quantities to a destination exceed either a total of 250 pounds (112 kilograms (kg)) excluding the pallet, or a volume of 20 cubic feet (6 cubic meters).

4.5.1.3. Container size permits use of one of the pallet patterns of MIL-HDBK-774, *Palletized Unit Loads*.

4.5.1.4. Special instructions for specific commodities take precedence over MIL-HDBK-774.

4.5.1.5. Do not exceed the weight and dimensional limits of MIL-HDBK-774 on palletized loads.

4.5.1.6. Use the 40 by 48-inch (101.6 by 121.9 millimeter (mm)) pallet with a four-way forklift entry for ease of loading and in support of NATO forces.

4.5.1.7. Keep the height of the vertical center of balance as close as possible to one-half the length of the pallet to obtain maximum use of the pallet with maximum stability for safe handling.

4.5.1.8. For loading 463L pallets, refer to TO 35D33-2-2-2, *Instructions with Parts Breakdown, 463L Air Cargo Pallets, Types HCU-12/E (Brownline Corporation),* and AFI 24-201, *Cargo Movement*.

4.5.2. Container Consolidation. When practical and consistent with DOD Regulation 4500.9-R, AFMAN 23-110, and AFI 24-201, consolidate shipments for a single consignee overseas or, when advantageous, to several consignees within the CONUS. The consolidation container must adequately protect contents during shipment. Do not use consolidation in lieu of unit packaging. To obtain maximum advantages of consolidation:

4.5.2.1. Restrict total weight and the cubic measurements of the contents so they do not exceed the limits prescribed for the selected container.

4.5.2.2. Assemble loose items or small unit packs of the same stock number into a single unit by bagging, bundling, tying, wrapping, or putting them into a carton, and identifying the contents according to MIL-STD-129 before placing them in the container.

4.5.2.3. Facilitate mechanical handling by placing skids on containers that have a gross weight of 200 pounds (90 kg) or more, or 100 pounds (45.40 kg) or more, if the dimensions exceed 48" x 20" (121.92 cm x 50.80 cm). Use a pallet base on consolidation containers that have a gross weight of 200 pounds (112.50 kg) or more or a gross cube of 20 cubic feet (6 cubic meters) or more.

4.5.2.4. Pack serviceable and unserviceable materiel separately.

4.6. Preservation and Levels of Packing for Unitized Loads.

4.6.1. Levels of Packing for Palletized Units Loads**.** You must sheath palletized unit loads containing Level B or commercial packs for delivery overseas. Supplement the fiberboard sheathing with a

waterproof barrier unless known favorable storage and handling conditions en route to the final destination indicate you do not need to. Do not sheath palletized unit loads containing Level A packs destined for overseas solely for packaging protection. Loads destined for CONUS installations do not require sheathing (unless shipping tire/wheel assemblies) regardless of packing level.

4.7. Preservation and Levels of Packing for Containerized Unit Loads. After considering the total distribution network, preservation and levels of packing may be reduced when exterior container dimensions permit shipment in CONEXS, SEAVANS or MILVANS. If container service can not be used, then allow the shipper at origin or the military ocean terminals to overpack exterior containers. If breakbulk and surface transportation is required for delivery to the user, or if storage time, storage conditions, or mode of transportation is unkown, then a higher level of packing must be used.

CAUTION: Containerized hazardous materials are not air-eligible cargo. See AFMAN 24-204(I) and 49 CFR.

Chapter 5

SPECIAL PACKAGING CONSIDERATIONS

5.1. Security Assistance such as Foreign Military Sales (FMS) and Military Assistance Program (MAP). Security Assistance items, including FMS, are especially susceptible to damage due to unknown and unfavorable transportation, climatic, and storage conditions. Provide military packaging protection unless the procuring country specifies otherwise.

5.2. Small Arms and Other Weapons. Small arms and other weapons and firearms consist of:

5.2.1. Handguns

5.2.2. Shoulder-fired weapons

5.2.3. Light automatic weapons (up to and including .50 caliber machine guns)

5.2.4. Recoilless rifles (up to and including 106 mm)

5.2.5. Mortars (up to and including 81 mm)

5.2.6. Rocket launchers (human portable)

5.2.7. Grenade launchers (rifle and shoulder-fired)

5.2.8. Mounted or airborne weapons (up to and including 90 mm)

5.2.9. Human operated weapons that have potential use in civil disturbances and are vulnerable to theft.

5.2.10. Repackaging Small Arms After Inspection or Exercise. Qualified packaging personnel must do the packaging. They must repackage weapons opened for exercise, or other reasons within ten days of the exercise. Do not store packaging materials in the weapons storage area.

5.2.11. Identification Markings for Small Arms. Include the serial numbers of the pieces according to MIL-STD-129, Marking for Shipment and Storage. Apply identification markings to each unit and intermediate container. Attach only DOT identification marking labels and proper shipping names (PSNs) to exterior containers. If inappropriate markings are already applied, obliterate them. Do not attach packaging lists or other documents identifying the contents to the exterior container.

5.3. Parcel Post Shipments. AFI 24-201 and Air Force Supplement 1 to DOD Manual 4525.6, govern preparation requirements for parcel post shipments. Envelopes and tapes used to seal packages must be capable of absorbing a postmark.

5.4. Hazardous Materials. Follow the Federal, agency, or departmental documents regulating the mode of transportation. The Hazardous Materials Information Resource System (HMIRS) provides guidance to personnel responsible for the packaging, handling, and transportation of hazardous materials. TO 11A-1-46, *Firefighting Guidance, Transportation, and Storage Management Data and Ammunition Complete Round Chart*, provides guidance on complete round information, hazard classification, firefighting, handling, transportation, and storage data for explosives.

5.4.1. Labeling Hazardous Materials. Apply the proper hazard label to the outside of the shipping container according to AFMAN 24-204(I) and 49 CFR. AFOSH Standard 48-12, paragraph 5d, identifies the labeling required by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

5.4.2. Hazardous Materials Information Resource System (HMIRS). Use HMIRS as a complementary reference along with, and not as a replacement for, existing regulations governing transportation, storage, handling, disposal, etc. HMIRS is available on the internet at **http://www.dlis.dla.mil/hmirs**.

5.4.3. Management of Hazardous Material Data. Packaging offices at each ALC must complete transportation data sheets for all Air Force hazardous items they manage. Assistance can be provided by contacting the Air Force Institute for Environment, Safety and Occupational Health Risk Analysis (AFIERA), AFIERA/RSH, 2513 Kennedy Cir, Brooks City-Base, TX. 78235-5116, DSN 240-6159, FAX DSN 240-2315.

5.4.4. Hazardous Waste. Package hazardous waste in containers authorized in AFMAN 24-204(I) or 49 CFR. If you do not use a container from one of these documents, you must follow the provisions of DOD Manual 4160.21, chapter 6, paragraph 47, *Defense Utilization and Disposal Manual*. The Individual Generation Site (IGS) is primarily responsible for proper packaging, labeling, marking, and preparing the hazardous waste manifest.

5.4.4.1. Labeling Hazardous Waste Shipments. The packaging activity must mark hazardous waste shipments as specified in 49 CFR, part 172, subpart E; 40 CFR, part 262, subpart C; MIL-STD-129; and 40 CFR, part 262, subpart C (for hazardous waste shipments to California, New Jersey, and Pennsylvania).

5.4.4.2. Manifest. The IGS prepares a uniform Hazardous Waste Manifest on EPA Form 8700-22/22A or an applicable State Hazardous Waste Manifest for all hazardous waste shipments to be transported over public highways. The 40 CFR, part 262, appendix, *Uniform Hazardous Waste Manifest and Instructions*, gives detailed instructions for completing the form.

5.4.4.3. Environmental Protection Agency (EPA) Identification Number**.** Assign an EPA identification number to all hazardous waste shipments as specified in 40 CFR, part 262, subpart A.

5.4.4.4. Hazardous Waste Record-Keeping and Reporting. Maintain records and reports as required by 40 CFR, part 262, subpart D, and the Installation's Hazardous Waste Management Plan.

5.4.4.5. Defense Reutilization & Marketing Offices (DRMOs) must maintain records on hazardous materials for which they have manifesting responsibility.

5.5. Radioactive Waste.

5.5.1. The activity that generates the waste, with the installation radiation safety officer (RSO), initiates a written request for radioactive waste disposal instructions as specified in TO 00-110N-2.

5.5.2. The TMO must comply with AFMAN 24-204(I) and Title 49 CFR when transporting radioactive waste.

5.6. Industrial Plant Equipment (IPE).

5.6.1. All IPE shall be cleaned, dryed, preserved and packaged in accordance with MIL-STD-107J, *Preparation and Handling of Industrial Plant Equipment (IPE) for Shipment and Storage.* Guidance

for equipment disassembly, cleaning, weatherproofing, skidding, preservation, packing protection and approved methods for preparing Government-owned IPE for shipment and storage are outlined therein.

5.6.2. Use MIL-STD-107J in conjunction with MIL-HDBK-701, *Blocking, Bracing and Skidding of Industrial Plant Equipment for Shipment and Storage.* The use of DOD reusable skids in accordance with MIL-STD-701 is a cost savings effort by the Government. Direct any proposed deviation from the use of DOD reusable skids for equipment weighing 42,000 pounds or less to the Defense Supply Center Richmond, ATTN: DSCR-VBD, 8000 Jefferson Davis Highway, Richmond, VA. 23297-5610.

5.7. Using Preservative Treated Wood.

5.7.1. Generally, treat lumber and plywood with a wood preservative only when a favorable tradeoff in container life expectancy can justify its use and you expect to store the container in the open for greater than:

5.7.1.1. Twelve months in tropical or subtropical regions (including the CONUS Gulf states).

5.7.1.2. Twenty-four months in temperate climates with normal rainfall (including CONUS Midwestern, Eastern, and Northwestern states).

5.7.1.3. Thirty-six months in arid areas (including CONUS Southwestern states).

5.7.2. Preserve lumber and plywood used to manufacture or fabricate containers and container accessories (skids, pallets, and rubbing strips) as specified in TT-W-571, Wood Preservation, Treating Practices. Use only Composition C and D of TT-W-572 and 3 percent Zinc Napthenate as wood preservatives. Consider using preservative-treated wood rather than untreated wood for the following containers and accessories:

5.7.2.1. Reusable containers of wood construction or containing wood members.

5.7.2.2. External wood members of metal, plastic, and fiberglass containers.

5.7.2.3. Wood members of open crates, including blocking, bracing, and mounting devices.

5.7.2.4. Wood members of wood and plywood containers and sheath crates.

5.7.2.5. Skids, pallets, and rubbing strips, even when used with nonpressure-treated containers.

5.7.3. When cutting preservative treated wood, use a bioenvironmentally approved ventilation system to prevent irritation from the sawdust.

5.7.4. Insure that personnel handling wood products treated with Pentachlorophenol (penta) and showing signs of penta crystals use nitrile rubber or polyvinyl chloride gloves and chemical goggles.

5.7.4.1. If personnel discover that penta treated items like boxes, pallets, and crates have crystals or blooms, remove, repackage, and return the contents to service using noncontaminated materials. Overpack the contaminated material in metal drums or wrap it in heavy plastic and report it as hazardous waste.

5.7.5. Do not ship or store foodstuffs in preservative-treated wooden containers.

5.7.6. NOTE: Wood products preserved with Composition C or D or TT-W-572 or 3 percent Zinc Napthenate do not have national stock numbers (NSNs). Order treated lumber by using the NSN for untreated wood with an added stipulation on the purchase order. For example, a purchase order

requesting treated 2 by 4 lumber, must begin with the NSN for untreated 2 by 4 lumber, (5510-00-220-6194). Then the stipulation must be added that the wood is to be used under moderate weather conditions and is to be treated as specified in TT-W-571, using Composition C or D of TT-W-572 or 3 percent Zinc Napthenate. Include such data in applicable TOs and SPIs if you are specifying treated lumber.

5.8. European Union (EU) Restrictions of Non-Manufactured Wood Packaging Materials (NMWPM).

5.8.1. Due to International concerns about invasive species of insects, the EU implemented restrictions on the importation of new and used coniferous (needle bearing trees) solid wood packaging/ materials. These new international standards affect non-manufactured wood packaging materials (NMWPM). NMWPM is defined as wood pallets, skids, load boards, pallet collars, wooden boxes, reels and crates.

5.8.2. DOD shipments departing the United States (including Territories), Canada, Japan and China enroute to EU member states (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Ireland, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) containing NMWPM must be treated for compliance. Solid wood packaging must be "Kiln Dried (KD)" or "Heat Treated (HT)" to a standard of 56 degrees Celsius (133 degrees Fahrenheit) for 30 minutes. It should be stressed that the heat treatment standard is that the "core" of the wood reaches 56 degrees Celsius for 30 minutes. In addition to the KD/HT or HT standard, the material must be marked with an approved pest-free certification stamp. The pest-free certification stamp will come from the manufacturer and contain the following information:

5.8.2.1. Trademark: The identifying symbol, logo, or name of the accredited agency.

5.8.2.2. Mill Identification: Product manufacturer name, brand or assigned mill lumber.

5.8.2.3. Heat Treated (KD/HT or HT) mark.

5.8.2.4. Country Code: Two Letter ISO Country Abbreviation.

5.8.2.5. Approved International Symbol for Compliant Non-Manufactured Wood Packaging.

5.8.3. Packaging materials exempt from these requirements are corrugated fiberboard, plywood, particleboard, veneer, oriented strand board (OSB) and dunnage. The restriction will apply to plywood boxes if nailed to solid wood frames or contain solid wood cleats.

5.8.4. The requirements do not apply to shipments originating outside of the United States, Canada, Japan or China destined for EU countries.

5.8.5. The EU requirement does not apply to hardwood (e.g. oak, maple, cherry, etc.). However, the requirement for hardwood pallets is to have the seller mark them with an "NC" (Non-Coniferous) stamp or to identify them on the documentation as hardwood and have the organization place the "NC" marking.

5.8.6. TMOs or any activity purchasing solid wood materials to use for building or assembling packaging must comply with the following requirement for purchasing the wood:

5.8.6.1. All wooden pallets and wood containers produced of non-manufactured wood shall be constructed from heat treated (HT to 56 degrees centigrade for 30 minutes) material and certified by an accredited agency recognized by the American Lumber Standards Committee (ALSC) in

accordance with non-manufactured wood packing policy and non-manufactured wood packing enforcement regulations.

5.8.7. All Air Force activities responsible for establishing packaging and packing requirements for contracts resulting in delivery of any product to the Air Force must ensure solid wood packaging in new contracts include the requirements outlined above. Additionally, all existing contracts (including contracts administered by DCMA) and delivery orders that result in deliveries to the EU must be modified to reflect the requirements above.

5.8.8. New procurements of HT lumber or HT solid wood packaging materials must be stored separately from any non-HT lumber or non-HT solid wood packaging materials. In addition, Air Force activities must keep documentation identifying all lumber or solid wood packaging procured meets the above HT requirement. As a minimum, these records will identify:

5.8.8.1. Purchase Order/Requisition/Receipt and Quantity of HT lumber purchased.

5.8.8.2. Work order(s) or other documentation that identifies amount of board feet (ft) and date purchased.

5.8.8.3. The amount of board ft used for packaging material.

5.8.8.4. Maintain these records and destroy 3 years after final payment IAW AFMAN 37-139, Table 64-1, Rule 1.

5.8.9. Existing or previously packaged material can be tested, inspected and certified as pest free by DOD shipping activities if the NMWPM meets one of the following requirements:

5.8.9.1. The thickest member of the NMWPM register's a moisture content reading of 19% or less when tested with a moisture meter.

5.8.9.2. The packaging is at least 5 years old, based on the pack date that is marked on the container, or other documentation that can verify/validate the original pack date.

5.8.10. For existing or previously packaging material, record the following for each shipment to EU member states:

5.8.10.1. NSN

5.8.10.2. Quantity

5.8.10.3. TCN

5.8.10.4. Tested Moisture Percentage

5.8.11. Visual inspection of the wood must confirm the NMWPM contains no bore or grub holes larger than 3mm and no presence of visible bark.

5.8.12. Previously packaged material that fails any of the requirements above must be repackaged using HT compliant NMWPM, or fumigated/pressure treated with an approved chemical in accordance with an officially recognized technical specification.

5.8.13. Any new container/pallet must be constructed/repaired with only HT wood that meets the requirements above.

5.8.14. Container Markings.

5.8.14.1. Existing or previously packaged materiel that passes the tests and visual inspections will be marked (stenciled or stamped) "USA DOD – DODAAC (shipper/packaging activity) – Pest Free."

5.8.14.2. NMWPM (pallets, containers, reels, boxes, crates, etc.) made at an Air Force (AFRC and ANG) installation utilizing HT compliant lumber will be marked "USA DOD – DODAAC – Pest Free." This information must be listed in a block format:

USA DOD

DODAAC

PEST FREE

5.8.14.3. Containers and pallets constructed utilizing non-coniferous wood (hardwood) will be marked "USA DOD – DODAAC – NC." This information must be listed in a block format:

USA DOD

DODAAC

NC

5.9. Protecting Metallurgical Failure Exhibits. DD Form 2332, **Product Quality Deficiency Report Exhibit**, must accompany such exhibits. Do not let the packaging and handling prevent accurate metallurgical failure analysis. These rules apply:

5.9.1. Do not clean or apply acid to the fracture except for exhibits shipped from overseas. Clean exhibits from overseas activities only when necessary to satisfy public health requirements. Take care to prevent damage to evidence during cleaning. Foreign products on the fracture may aid analysis.

5.9.2. Do not touch the fracture face with fingers, tools, or instruments.

5.9.3. Protect the fracture face from the environment, particularly where corrosion can occur. Do not apply preservatives to the fracture face; they could interfere with analysis.

5.9.4. Store them in a desiccated, watervaporproof bag, fabricated from MIL-B-131 barrier material or equivalent. Seal the bag airtight. Include only one item per watervaporproof bag.

5.9.5. If the exhibit is shipped intact rather than in parts, ship only the exhibit item in the container.

5.9.6. If the item is bent or broken, use a shipping container large enough to prevent rearranging or disturbing the bent or broken area.

5.9.7. Pack items to prevent damage to the exhibit evidence during shipment. If you pack more than one exhibit in a single container, be sure to use cushioning or wrap to prevent contact between each exhibit.

NOTE: TO 00-35D-54, USAF Deficiency Reporting and Investigating System, contains further guidance on protecting metallurgical failure exhibits and marking exhibits for material deficiency reports.

5.10. Items in a Mobility Readiness Spares Package (MRSP):

5.10.1. Give War Reserve Materiel (WRM) level A or B packing (see **Attachment 2**), unless the IM or ALC packaging office specifies otherwise.

5.10.1.1. These requirements, or those specified by the IM, apply even when the packaging activity packs the items for deployment within kits or mobility bins.

5.10.1.2. Keep depot repairable WRM in complete SPI packs or prescribed fast packs to ensure protection during deployment and to provide packs for retrograde repairables from deployed sites.

5.10.2. You generally do not need to stock packaging materials as WRM. However, ensure that spare reusable containers are available at forward deployed locations during follow-on Readiness Spares Packages (RSP) for retrograde MICAP mission support.

5.10.2.1. Overseas bases may maintain up to a 90-day level of bench stock of packaging materials, based on current usage.

5.10.2.2. Each base must maintain at least a 30-day supply.

5.10.2.3. The MAJCOM may approve storage of additional materials at the base or within the region.

Chapter 6

AIR FORCE REUSABLE CONTAINER PROGRAM

6.1. Overview.

6.1.1. The USAF RCP is an efficient and effective program to satisfy the most demanding packaging requirements. Savings in logistics costs are being realized by this program. By taking maximum advantage of recovering and reusing the universally designed reusable containers, packaging costs are reduced. This program is designed to pay minimum cost in packaging and maintaining high levels of protection for assets during storage or shipment.

6.1.2. Reusable containers are a complete shipping and storage system that integrates interior cushioning material with the exterior container; can be re-used without impairment of its protective function; and which can be repaired or retrofitted to prolong its serviceable life. Reusable containers can be modified for shipment of like items other than that for which it was originally intended. These containers provide superior packaging protection and performance of critical spare parts and increase the reliability of weapons systems.

6.1.3. One type of a reusable container is the fast pack. A key advantage of reusable fast packs is versatility. Thousands of serviceable parts require special containers for shipment to repair activities. Containers must maintain a high rate of re-use due to the nature and value of these items and the Air Force's diverse logistical requirements. About ninety (90) percent of the items assigned to fast packs are either in the slide or star type pack. The remarkable versatility of fast packs is evident when over ten thousand (10,000) line items can be packed in four (4) sizes of slide packs.

6.1.4. Consequently, new acquisitions of expensive containers are minimized, labor and materiel costs are reduced and mission support is enhanced through the continuous flow of serviceable parts.

6.2. Categories of Reusable Containers. Reusable containers fall into four categories, depending on the durability of the exterior shipping container and complexity of the design:

6.2.1. Long life containers. Effective for 100 trips minimum. A shipping container that can be used repeatedly and whose serviceability can be expected to equal the serviceability of the item it is designed to protect. These containers may be refurbished by appropriate maintenance practices to their original condition and re-used.

NOTE: Slotted angle (MIL-S-21041) crates, covered by NSNs in Federal Supply Classifications (FSC) 8140 and 8145, are long-life containers. Slotted angle containers can be constructed and repaired at base level.

6.2.2. Short life containers. Effective for 10 trips minimum. A shipping container that can be re-used for a limited number of times. The container is usually made of wood, plywood, fiberboard or similar material that has limited serviceability. See TO 00-85B-3.

6.2.3. Multi-application containers. Multi-application containers are designed to protect a variety of components within a given fragility and size range. They can be manufactured in a similar manner to that used for specialized containers or in accordance with applicable military/federal specifications. A multi-application container can be either of the short life or long life variety. Short life multi-application containers include fast packs, consisting of a family of standard size cushioned fiberboard shipping containers. Long life multi-application containers are designated as Types VI thru X in

MIL-STD-2073-1. These containers are made of rugged plastic containing internal cushioning pads or permanent shock mitigation systems (e.g. shear mounts, steel coils and springs) and designed to protect repairable components during forward and retrograde movements within the Defense Transportation System (DTS).

6.2.4. Specialized Containers**.** Specialized containers are generally long life and are uniquely configured to protect a specific item, or limited variety of items during handling, shipping and storage or to protect personnel and equipment from hazardous contents. These containers are made of metal (e.g. extruded aluminum or steel), plastic, or synthetic materials, that are fabricated and produced by industrial equipment according to an engineering drawing. Containers of this type incorporate many special features (e.g. energy absorbing systems, temperature control systems and permanent shock mitigation systems, etc.). Engineering drawings define form, fit, function, materials, tolerances and fabrication techniques. Internal fixtures or other fitments within result from original design or redesign modifications to meet specific weapon systems applications.

6.3. Types and Styles of Multi-application Short Life Containers.

6.3.1. Fast Packs. Containers are designed for recovery and re-use. Complete details for the construction and sizes are outlined in PPP-B-1672, Box, Shipping, Reusable with Cushioning. TO 00-85B-3, How to Package Air Force Spares, describes the fast pack SPI numbering system. Additional information regarding weight limits and fragility range of items applicable to these packs may be found in MIL-STD-2073-1. Fast packs consist of four types. These container types are briefly described as follows:

6.3.1.1. Type I. Vertical Star Pack. Consists of a polyurethane foam cushion insert with a diecut, star shaped, vertical cavity and top and bottom pads of the same material assembled in the container. Type I is used for packaging fragile items, either rectangular or cylindrical in shape, such as meters, gauges and instruments (e.g. air speed indicators). Items packaged in this star pack type are inserted into the cavity from the top of the container prior to placing the top pad in place.

6.3.1.1.1. Style A — Regular slotted carton (RSC)

6.3.1.1.2. Style B – Double cover container (DBLCC)

6.3.1.1.3. Style C – Modified double cover container (Mod DBLCC)

6.3.1.2. Type II. Modified Triple Slide (Convoluted Foam) Folding Pack. Consists of a convoluted polyurethane foam cushion bonded to container board. This assembly is subsequently folded up to become the slide of a modified triple slide box. The cushioning provides maximum protection against shock, while holding the item in place by pre-compression of the convoluted tips. Type II is used for circuit boards, electronic modules glass envelope electronic tubes. It is also used for a variety of other items whose depth does not exceed the limits of the size of the containers.

6.3.1.3. Type III. Full Telescoping Encapsulated Pack. Consists of a telescoping container with bonded convoluted (some end and side pads are flat sheet stock) polyurethane foam cushioning which forms an oblong cavity. Type III is used to pack black-box equipment such as receiver-transmitters, amplifiers, power supply units and electronic indicators.

6.3.1.4. Type IV. Double Cover Horizontal Star Pack. Consists of a two piece (top and bottom) polyurethane foam insert, which forms a star shaped cavity when the two pieces are mated in con-

junction with end pads of flat sheet stock. The insert components and end pads are bonded in place in a half telescoping container fabricated in accordance with ASTM-D5118, Type CF, Style DBLCC. The cushioning insert is similar to the Type I star pack insert except that it is cut along (horizontal) its greatest dimensional length to facilitate insertion (loading) and extraction of relatively long, rectangular or cylindrical items such as control generators, voltage regulators, volt-meters, electronic receivers, protection panels, transmitters, transformers, couplers and amplifiers.

6.3.2. Standard Packs. Standard packs are ASTM D5118, Type RSC, Class Weather-Resistant fiberboard containers. Standard packs, for which the packaging components (including the shipping container) are standardized as to materiel and size. The cushioning in a standard pack is not bonded to the container walls and varies according to the instruction code in the standard pack SPI number. Appropriate items require less cushioning protection than fast pack items. Because many different items are assigned to each standard pack, the reusability is increased. Refer to TO 00-85B-3 for complete details on standard pack numbering systems which specifies packaging data (e.g. sizes of containers and packaging materials needed to preserve and protect the items).

6.3.3. Special Packaging Instructions (SPI). SPI drawings are detailed packaging instructions, usually in 3-D drawing (graphic) form, used to construct packages/containers for items requiring special preservation, packing and protection. A SPI drawing generally depicts details for special blocking, bracing, cushioning, shock mounts, tiedown devices and positioning of the item in the package/container. Additionally, a SPI describes the bill of materials, container system illustrations, preservation and packaging requirements for one item or a limited group of items of similar form, fit and function.

6.3.3.1. SPI numbers follow a DOD standard numbering system with Service Designator + National Item Identification Number (NIIN) (e.g. F000519053).

6.3.3.2. Refer to the SPI drawing to manufacture or fabricate the container and to package the item.

6.3.3.3. Units can retrieve AF managed weapon system specific SPIs for preparing materiel for shipment by accessing the Special Packaging Instructions Retrieval & Exchange System (SPIRES) at **https://spires.wpafb.af.mil**. Complete details are in **Attachment 4** herein.

6.3.3.4. If a SPI is not listed in SPIRES, or if the Internet is not accessible, then hard copies of SPIs may be requested directly from the prime ALC packaging office.

6.4. Design, Build and Repair Capabilities.

6.4.1. HQ AFMC LSO/LOP (AFPTEF) and AAC/WMOC (Container Branch) have full design, build and repair capabilities to support specialized and multi-application long life containers.

6.4.2. Main Operating Bases (MOB) which have full maintenance capability may repair specialized long-life containers and control them as an accountable item of supply.

6.4.3. Base LRS Distribution Flights usually have the materials and ability to build, repair, or refurbish multiapplicaton short-life containers.

6.4.3.1. Fast packs may be refurbished by replacing serviceable parts. For example, use serviceable cushioning inserts from worn-out fast packs in other packs that need them.

6.4.4. Base LRS Distribution Flights generally do not have the resources (facilities, capability and materials) to design, build and repair long life and specialized containers.

6.5. Primary and Alternate Packs.

6.5.1. Give only one SPI number for NSNs assigned to the primary SPI.

6.5.2. For long-life and short-life containers prescribed for the same item, specify them in the same SPI. Call the long-life container the primary pack and the short-life container the alternate pack.

6.6. Management and Engineering Responsibility for Long Life, Short life, Multi-application and Specialized Containers.

6.6.1. AFMAN 23-110, volume 1, part 1, chapter 10, section W, *Container Management*, assigns engineering responsibility to the using systems manager (SM), or the end-article item manager (IM) and prescribes procedures for stock listing, managing, controlling and returning containers to supply.

6.6.2. AFMAN 23-110, volume I, part two, chapter 2, identifies management responsibilities. For items without an assigned Item Manager (IM), contact the ALC, Product Center, or TRC in your geographical area.

6.6.3. Specialized and multi-application long life containers are subject to AFMAN 23-110 management, accountability and control procedures.

6.6.4. Short life and multi-application short life containers are not subject to AFMAN 23-110 management, accountability and control procedures once issued for use.

6.6.5. Ogden ALC has prime class management responsibilities for FSC 8140 specialized and multi-application long life containers. Warner Robins ALC has prime class management responsibilities for FSC 8145 specialized and multi-application long-life containers.

6.6.6. The acquiring activity oversees testing, engineering, and renovating for surplus FSC 8140 and 8145 containers acquired through the CDRS.

6.6.7. The prime ALC does not purchase, repair, or re-engineer FSC 8140 and 8145 surplus reusable containers transferred to other activities.

6.6.8. HQ AFMC LSO/LOP (AFPTEF), upon request, will provide container engineering design, modification, test and evaluation of reusable containers identified or needed to accomplish mission requirements.

6.6.9. Points of Contact: Contact the managing ALC packaging office at the following DSN numbers:

ALC Packaging Office	DSN Number
Oklahoma City ALC (OC-ALC/LGITL)	339-2121
Ogden ALC (OO-ALC/LGMPD)	777-4495
Warner-Robins ALC (WR-ALC/LGMTP)	468-9277

For help with packaging problems on items being procured for research, development and test, contact:

Product Center Packaging Office	DSN Number
Aeronautical Systems Center, WPAFB (ASC/SYPL)	785-7811
Air Armament Center, Eglin AFB (AAC/WMGC)	872-4609 x5571
Space and Missile Systems Center (SMC/AXLX)	876-2371

6.7. Requesting SPI Waiver Authority to Deviate and Hard-Copy SPIs. Requests for SPI waiver authority to deviate and hard copies of SPIs are obtained from the prime ALC packaging office. While the prime ALC packaging office strives to minimize deviations, SPI waivers are sometimes necessary. This flexibility is required to accomplish mission objectives. The prime ALC packaging office archives SPI drawings in SPI number sequence. See **Attachment 4** for additional information on requesting waiver authority to deviate and hard copies of SPIs.

6.8. Obtaining Assistance When No SPI Container Is Available. If a SPI container cannot be fabricated at the base or a SPI container is not available (for instance, lost, damaged, or destroyed and Credit Due-In From Maintenance (DIFM)), take one of these actions:

6.8.1. Request SPI waiver authority to deviate, authorizing the use of a suitable replacement container, from the prime ALC packaging office. Provide the prime ALC packaging office with packing details for waiver applicability. A waiver authority number to deviate and applicable instructions will be provided. Mark the waiver number on the upper right hand portion of the identification side of the container(s) prior to movement and annotate on the shipping document.

6.8.2. Purchase locally the services or materials to fabricate an approved SPI container if the base has the capability. Order "FAST PACKS" from General Services Administration (GSA) or fabricate SPI packs, when required. Use AF Form 451 when fabricating SPI packs, as outlined in **Attachment 3**.

6.8.3. Acquire the SPI container as a lateral support asset from bases within the same command or the same overseas theater. If the SPI container can not be laterally supported or if there is no local P&C capability, then contact the closest ALC or TRC and request lateral support fabrication for the necessary container(s). Use AF Form 451 when requesting packaging services.

6.8.4. For a long-life or stock listed container, submit a requisition, through LRS Distribution Flight channels. Include the following information:

6.8.4.1. SPI Number

6.8.4.2. Quantity

6.8.4.3. National Stock Number

6.8.4.4. Ship-To Address

6.8.4.5. Fund Cite

6.8.4.6. Intended Use (shipment or storage)

6.8.4.7. Point of Contact, (include office symbol and phone number)

6.8.4.8. Squadron level authorizing signature

6.8.4.9. Any other applicable information

6.8.5. For items issued under the credit DIFM concept, where the repairable item is turned in to supply before the serviceable item is issued, the AF Form 451 must have "Credit DIFM – No Reusable Container Issued/Available." Supply will record on the shipping document "Credit DIFM - No Reusable Container Issued/Available." Delays can be avoided if maintenance units will ensure that the specified container is available.

6.8.6. For SPI containers without stock numbers, contact the prime ALC packaging office.

6.8.7. For SPI containers that are contractor inventory control point managed, contact the applicable contractor source of supply for disposition instructions.

6.8.8. The requesting activity is responsible for all materials and transportation costs for fabricated containers and/or the total contract cost associated with their fabrication.

6.9. Ordering Multi-application Containers . GSA stock lists multi-application containers (e.g. fast packs) for ordering and stocking. (See TO 00-85B-3).

6.10. Adding New Multi-application Containers. HQ AFMC LSO/LOP (AFPTEF) must approve recommendations for adding new multi-application containers to Air Force packaging systems before you develop or use them. HQ AFMC LSO/LOP (AFPTEF) recommends approved multi-application containers with potential high use for inclusion in MIL-STD-2073-1.

6.11. Opening and Unpacking Materiel Containers. To optimize re-use, carefully open and unpack materiel to prevent damage to fiberboard containers and their components. Do not strip old tapes and labels from fiberboard containers; it can delaminate (peel the protective layers off) the container and reduce the serviceable life. Prevent obliteration of stenciled information (e.g. SPI number, NSN, dimensions, etc.) located on most containers. Carefully cut open the flaps by shallowly cutting along the tape line. Cut off loose ends of existing tape. Carefully remove all protruding nails, staples, metal strapping, and other sharp metal objects. Put all container components inside, or attach them to, the container so they do not get lost. Tape over the original tapes and place the new label over the old.

6.12. Closure, Reinforcement and Sealing Materiel Containers.

6.12.1. Closure, sealing and reinforcement for shipment and storage will be accomplished as required and specified by ASTM D5118 and PPP-B-1672, depending on the container type, levels of protection and preservation methods. The tape used for reinforcement and sealing shall be of the specification, type and size specified for each category and type of box. Adhesives will not be used to close fast packs or standard packs. Do not use staples or glue to make the final closure of fast packs and standard packs. Surfaces to which tape for closure is to be applied must be free of loose soil, oil, or grease. These surfaces should be wiped clean prior to application of tape. Guidelines are also specified in TO 00-85B-3.

6.13. Guidelines for Serviceable Containers. To be serviceable, reusable containers must meet all of these requirements. They must:

6.13.1. Protect serviceable items against natural and induced environments and physical damage.

6.13.2. Protect unserviceable items against further deterioration during return to the ALC or TRC.

6.13.3. Be opened and closed without impairing the container's ability to provide its original level of protection.

6.13.4. Have all its components and are in good repair.

6.14. Selecting and Designing Specialized and Multi-application Long-Life Containers. Follow these procedures when selecting and designing long-life containers:

6.14.1. Utilize the AFPTEF. Activities must consider the in-house design, prototype, test and evaluation capabilities of the AFPTEF before soliciting/contracting such work out. Complete details are contained in **Attachment 6** herein.

6.14.1.1. The AFPTEF must review and approve any specifications and statements of objectives/ statements of work before you procure new long-life container designs.

6.14.2. Utilize the Container Design Retrieval System (CDRS) to determine if a design already exists to satisfy the mission support requirements. MIL-STD-2073-1 contains instructions on how to use CDRS. You can also use CDRS to locate surplus multi-application long-life containers that meet your mission support requirements.

6.14.2.1. After selecting a standardized off-the-shelf container or approving a newly designed long-life container, the buying activity must send the design data to: CDRS Office, AAC/WMOC, 314 W. Choctawhatchee Ave, Suite 104, Eglin AFB, FL 32542. DSN 872-4609 x5571, Commercial (850)882-4609 x5571. Fax: 882/872-1688/2065. Follow the procedures in MIL-STD-2073-1 for submitting new designs to CDRS.

6.14.3. Contact the prime ALC packaging office. Give preference to standardized off-the-shelf containers or standard designs that meet the long-life performance requirement.

6.14.4. If no standardized off-the-shelf container will satisfy the mission requirement, contact the managing ALC Item Manager (IM), HQ AFMC LSO/LOP (AFPTEF) or CDRS Office for guidance on the development and testing of new container designs.

6.15. Stock Listing Short-Life Containers. The prime ALC packaging office works with the IM (or with the appropriate SM) to begin stock listing of short-life containers in FSC 8110 and 8115 when all these conditions apply:

6.15.1. The volume of usage makes it economical.

6.15.2. They expect the need to continue.

6.15.3. The pack has multiple applications (like the fast packs discussed in TO 00-85B-3).

6.16. Active Reusable Containers. Active reusable containers include all containers for which an immediate or projected need exists.

6.16.1. When active reusable SPI containers for most depot reparable items are empty, then recover and re-use them within the reusable container program.

6.16.2. Account for SPI containers in special accounts (e.g. munitions or engines). SPI containers are considered a part of, and identified to, the item packed inside during shipment and storage. Turn in certain specialized long-life, munitions and engine containers to LRS Distribution Flight and account for them in their respective munitions or engine accounts.

6.17. Specialized and Multi-application Long-Life Containers Not In Use. Return FSC 8140 and 8145 containers to distribution accountability when any of these conditions applies:

6.17.1. Containers are not in use.

6.17.2. An immediate or projected need can not be identified.

6.17.3. Containers are not managed in separate accounts (such as engines or munitions).

6.17.3.1. When using or packaging activities turn-in excess or unused containers to LRS Distribution Flight, the Distribution Flight reports them to the IM or SM as available for redistribution.

6.18. Excess Specialized and Multi-application Long-Life Reusable Containers. When an activity generates a local excess over current or projected requirements, identify, segregate, and inspect the condition of long-life containers.

6.18.1. Turn in those containers traced to a valid NSN to distribution, engines, or munitions accounts, as appropriate, for redistribution. Redistribute containers that are separately accounted for only at the direction of the IM.

6.18.1.1. Attempt to cross level trace to an NSN or SPI number any container not cross referenced to an NSN. You may request assistance from base Distribution Flight, an ALC packaging office or CDRS office.

6.18.1.2. Base Distribution Flight may request help from the prime ALC packaging office responsible for the SPI (**Attachment 4**) when redistributing long-life containers that have not been separately accounted.

6.18.1.3. Because these containers generally are in short supply and may be needed for packing other items on the SPI, base Distribution Flight should redistribute directly to other Air Force units.

6.18.1.4. Contact the IM and request instructions. If the IM does not want the containers for any purpose, contact the prime ALC packaging office or CDRS office to find a use for the containers. The prime ALC packaging office may have disposition instruction. The CDRS database is populated with most of the FSC 8140 and 8145 shipping and storage containers from the FEDLOG system. If the containers are high quality containers with high value for future applications, the CDRS office may request the containers be sent to their station for storage. The CDRS office may look for storage options while looking for a using customer for the containers.

6.18.1.5. Do not transfer specialized or multi-application long-life containers to the Defense Reutilization and Marketing Office (DRMO) unless directed in writing by the IM. As a last resort, after exhausting all available means to redistribute these containers to other Air Force units and written IM disposition instructions, the containers can be turned-in to DRMO for recycling.

6.18.1.6. The shipping activity is responsible for all transportation (shipping and handling) costs associated with sending the reusable containers to a storage activity. The requesting activity is responsible for all transportation (shipping and handling) costs associated with container re-use.

6.19. Excess Multi-application Short-Life Reusable Containers.

6.19.1. New Containers. Report excess new multi-application short-life FSC 8110 and 8115 containers for lateral support to other MAJCOM activities, when the quantity or economic value justifies the cost of redistributing them.

6.19.2. Used Containers. Recover and turn-in used serviceable multi-application short-life containers (including containers for assets no longer on-hand) and packaging materials above local requirements through routine distribution channels for storage and redistribution. For unserviceable containers that are beyond economical repair, DRMO resell of non-usable excess for recycling is the preferred method of disposal.

6.19.2.1. Deliver SPI packs and wood containers to the storage site in a setup condition; deliver Tri-wall and fiberboard boxes knocked-down.

6.19.3. Excess Consolidation Containers.

6.19.3.1. Bundle excess used consolidation containers in serviceable condition and return them to the nearest ALC, Air Force unit, or other service activities with a valid need by opportune airlift or other low-cost transportation.

6.19.3.2. Flatten disposal containers that are not recovered before they are placed in refuse receptacles or pickup sites.

6.19.4. Excess Consumable Packs and Packing Materials.

6.19.4.1. Recover and segregate by class and grade all excess reusable packs and packing materials (e.g. polyurethane foam cushioning) used to ship consumable items. Ensure personnel place packs and packing materials in designated recycling receptacles for re-use.

6.19.5. Items Inside Recovered Containers.

6.19.5.1. Be sure that containers are empty before you redistribute, recycle or dispose of them.

6.19.5.2. Return items found in recovered containers to the accountable unit. If the item or unit cannot be identified from the container, turn-in the item to Distribution Flight as Found On Base (FOB).

6.19.6. Marking and Identifying Reusable Containers.

6.19.6.1. Mark the exterior of SPI packs and reusable contractor packs with "REUSABLE PACK" (except for fast packs, standard packs, and long-life FSC 8140 and 8145 containers).

6.19.6.2. Mark the fast pack containers only with the words "FAST PACK" and the fast pack code, not with the complete fast pack SPI number. The fast pack code consists of the last three digits of the fast pack SPI number, beginning with an "X" (e.g. XE6).

6.19.6.3. Standard packs do not need to be marked with "REUSABLE PACK" or with the standard pack SPI number.

6.19.6.4. Ensure that ALC and base distribution systems print the SPI number on the DD Form 1348-1A, which provides a convenient record for identifying the item to the SPI and for ensuring the accuracy of the SPI number on the shipping container.

6.20. General Reusable Container Program Implementation Guidance. At Installation/Wing level, procedures shall be prepared to develop and implement an effective reusable container program to ensure maximum recovery, re-use, reimbursements and transfer of funds from host/tenant units for lost, destroyed or discarded fast packs, standard packs, SPI shipping containers, packaging materials, labor hours for constructing/replacing reusable containers and commercial transportation (shipping and handling) costs and recycling. This gives the Wing direct control over their program so they can adapt it to specific mission requirements. Instructions implementing these procedures must:

6.20.1. Identify procedures for receipt, storage, issue, recovery, turn-in and recycling of reusable containers and packing materials.

6.20.2. Ensure that reusable containers for repairable items are available for repackaging items for storage and shipment to the prime ALC or Technology Repair Centers (TRC). Identify containers by a fast pack, standard pack or SPI number. If an SPI number has not been assigned, use container NSN, item NSN, or part number.

6.20.3. Ensure that spare reusable containers are available at forward deployed locations during follow-on Readiness Spares Packages (RSP) for retrograde MICAP mission support.

6.20.4. Establish recovery sites for excess serviceable reusable containers and packing materials. This does not apply to unit stored reusable containers. Units turn-in excess serviceable reusable continers to Distribution Flight and ensure they are separated from refuse receptacles.

6.20.5. Establish recycling sites for unserviceable reusable containers and packing materials and ensure they are separated from refuse receptacles.

6.20.6. Identify procedures and responsibilities for recovering, screening and storing reusable containers and packing materials from recycling sites.

6.20.7. Emphasize that excess serviceable reusable containers must not be needlessly discarded in waste receptacles or transferred to the DRMO unless directed in writing by the IM.

6.20.8. Identify procedures and responsibilities for processing AF Forms 451 for reimbursement and prior transfer of funds to replace reusable containers which are lost, destroyed or discarded. This form must be used for all items without the required SPI pack before shipment turn-in to transportation. LRS Distribution Flight will maintain a list of unit RCP monitors and alternates authorized to sign AF Form 451.

6.20.9. LRS Distribution Flight must ensure the issued item is not separated from its specified container. Transfer the item and the container at the same time. Internal procedures must be established to rematch the item and its proper container if the item and container are separated. AF Form 451 should be initiated immediately upon storage of item if no container exists. Ensure that copies of SF 364 and AF Form 451 are kept with the container if the item is in the wrong container.

6.20.10. Ensure units recover and re-use materiel containers in which they received serviceable replacement or spares items. Units must ensure that the proper container and item are promptly rematched if the item is taken out for periodic bench check. Use the same container to return a reparable like item to the supporting LRS Distribution Flight and repair activity. When a repairable like item

is not immediately available, keep all interior fixtures and cushioning within the empty container and place it in storage for future re-use.

6.20.10.1. When units turn-in items for shipment or storage, which needs a container built or repaired, the units must prepare an AF Form 451. This form will stay with the item during the turn-in cycle and will be completed by the LRS Distribution Flight P&C section once the item is repacked for shipment or storage.

6.20.10.2. LRS Distribution Flight will ensure that items turned-in without the required containers are accompanied by an AF Form 451. Items in which the proper containers cannot be located, or incorrect containers accompany the items will not be accepted for turn-in without this form. When a unit brings an incorrect container and the SPI specifies a more expensive container, then either charge the unit for the use of the specified SPI container and give the incorrect container back to the unit, or charge the unit the difference between the specified SPI container and the incorrect container.

6.20.11. Identify procedures and responsibilities for processing AF Forms 616 for reimbursement and prior transfer of funds for commercial transportation (shipping and handling) costs.

6.20.12. Identify procedures and responsibilities for processing AF Forms 406 and DD Forms 448 for reimbursement and prior transfer of funds for packaging materials and labor expenditures incurred for units requesting special packaging services.

6.20.13. Establish a reusable container working group, composed of senior level representatives from distribution, maintenance and other major using units resource advisors (RA). This working group will meet annually, or as needed, to coordinate actions, analyze budgetary and operational requirements, evaluate number of containers lost or destroyed and replacement cost, indications of negligence in discarding reusable containers and packing materials in waste receptacles, number of excess reusable containers on-hand and status of disposition, address deficiencies and recommend corrective actions necessary for executing an effective reusable container program.

6.20.14. Establish unit RCP monitors to assist unit commanders by ensuring units are responsible for identifying, storing, protecting, recovering and reusing packaging containers identified as such herein.

6.20.15. Identify procedures for evaluating deficiencies in the RCP. Establish procedures for performing corrective action, to include review of the AF Form 451, SF 364 and requests for SPI waiver authority to deviate.

6.20.16. Ensure units provide a covered, clean, dry space to protect reusable containers and packing materials from inclement weather during storage.

Chapter 7

MARKING MATERIEL FOR SHIPMENT AND STORAGE

7.1. MIL-STD-129, Marking for Shipment and Storage. This document establishes procedures for marking military supplies and equipment for shipment and storage. Specifications, technical orders, drawings, and Special Packaging Instructions (SPIs) may also contain special marking requirements. In all cases except those described in this section, you must comply with MIL-STD 129.

7.2. Multi-pack Shipments. Mark all consolidated shipping containers "Multipack". Include level of packing, date of pack, and gross weight and cubic measurements instead of content and identification markings. MIL-STD-129 contains marking requirements for multipack shipments including those containing shelf-life or warranty items. Multipacks containing properly packaged ESD sensitive items do not require ESD markings on the exterior multipack container. If a consolidation container contains a unit container marked "FRAGILE," do not put "FRAGILE" labels on the consolidation container unless the gross weight of the consolidation container is 75 pounds (33.75 kg) or less.

7.3. Expedite Shipment Marking. AFI 24-201 outlines how to identify "expedite" shipments. The Air Force uses two codes to identify these shipments: Code 999 and Not Mission Capable Supply (NMCS) (formerly MICAP). Shipments coded 999 take precedence over all other shipments. While both codes can apply to a single shipment, do not apply NMCS markings if you use 999 markings. Mark each unit in the shipment.

7.3.1. Expedite Labels. Shipping documents are annotated if the shipments are an Mission Capable (MICAP) 999 or an Not Mission Capable Supply (NMCS). The 999 shipments are identified by either the Optional Form 80, 2.0" x 2.0" (50.80mm x 50.80mm), or Optional Form 81, 4.0" x 4.0" (101.60mm x 101.60mm)(NSN 7540-00-139-4832). Except when 999 markings apply, the NMCS markings are identified by either the Optional Form 83, 3.0" x 1.5" (76.20mm x 38.10mm), or Optional Form 84, 3.0" x 5.0" (76.20mm x 127.00mm)(NSN 7540-00-139-4832). GSA is a source for procuring these forms. See AFI-09, Numerical Index of Departmental Forms, for the sizes of these forms. Use the largest size that space permits. Attach one label on the same side and next to the address label. Place another label on the opposite side of the container. Mark irregularly shaped units where shippers can easily see the markings. Apply as indicated in this paragraph for 999 shipments.

7.4. Project Code Markings. Shipping documents also tell you if the item has a project code. Put the project code number in the space provided for it on the shipping label. See AFMAN 23-110, volume 1, part 4, chapter 1, attachment 17, as required by AFMAN 23-110, volume 1, part 1, chapter 5, section A, paragraph 7.

7.5. Fragile Markings. When packaging conforms to specified Air Force packaging requirements, you do not need "fragile" markings unless prescribed by a SPI. When packaging does not completely conform to Air Force Requirements for a specific item, the shipper must decide whether to use "fragile" markings.

7.6. Marking Component Parts of SPI Containers.

7.6.1. If local units fabricate SPI packs, mark the SPI number on the exterior of the container before shipment.

7.6.2. Keep together or mark with the SPI number the component parts of SPI containers that have complex configurations (like die-cuts or special purpose inserts) in the container.

7.6.3. Do not obliterate Performance Oriented Packaging (POP) markings from the fast pack containers.

7.6.4. Do not mark SPI numbers on:

7.6.4.1. Fast pack containers.

7.6.4.2. Standard pack containers.

7.6.4.3. Their internal components.

7.6.4.4. Classified shipments.

7.7. Orientation Markings. When a shipper must carry a package of restricted articles in an upright position and you must mark it to that effect, use Dangerous Goods Packaging Orientation, to show how the package should be stowed. The label arrows must point up to indicate the top of the package.

7.8. Marking Top-heavy Shipments.

7.8.1. To determine when containers or crates require top-heavy marking (in addition to the center of balance requirements of MIL-STD-129):

7.8.1.1. Locate the center of gravity (CG) of a uniformly distributed load. To determine the CG, locate the side with the smallest base dimension of either the width (w) or the length (l) of the crate (**Figure 7.1.** and **Figure 7.2.**). When the base dimensions of either "w" or "l" are equal (**Figure 7.1.**), either side will work. On the chosen side, draw diagonal lines from opposite corners. The intersection of the diagonal lines is the CG of the crate.

7.8.1.2. Using the same base dimension used to find the CG, draw an equilateral triangle on the crate (**Figure 7.1.** and **Figure 7.2.**). If the CG is within the triangle (**Figure 7.1.**), the container is within the safe limits for normal handling. If the CG is not within the triangle (**Figure 7.2.**), the crate is unsafe for normal handling and should be marked "TOPHEAVY."

Figure 7.1. Uniform Load.

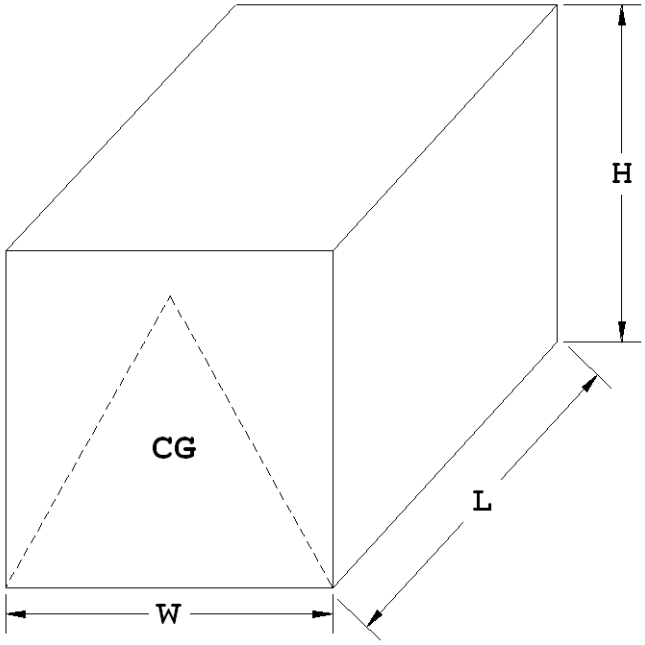
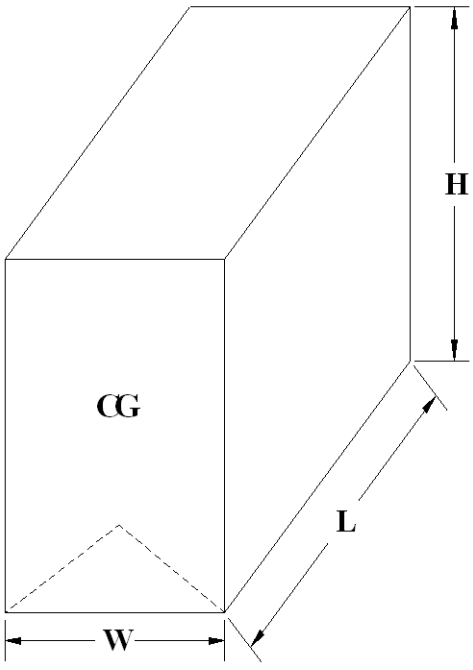


Figure 7.2. Topheavy Load.



7.9. Forklift Entry. You must use a captive forklift entry on crates that are unsafe for normal handling even when they are marked "TOPHEAVY."

7.9.1. For loads you suspect might have a normally high CG (machinery, drill presses, bandsaws, wing sections), determine the CG as follows:

7.9.1.1. Turn the crate on its side and place it over a pipe. Roll the crate back and forth until you can balance it.

7.9.1.2. After you find the CG, mark the crate as "TOPHEAVY."

NOTE: If the height of the crate is equal to three times the base, you must mark the crate "TOPHEAVY."

Chapter 8

PACKAGING DEFICIENCIES, DAMAGE AND COST CONTROL

8.1. Inspection. Inspect items systematically to prevent loss or damage from the time you receive them until you use or dispose of them. Report defects to help the packaging designer eliminate future damage.

8.2. Responsibilities of the Shipping Activity.

8.2.1. The shipping activity must package materiel to prevent damage during shipment.

8.2.2. Personnel performing packaging functions must meet minimum training requirements or be supervised by fully trained personnel.

8.2.3. When the shipping activity receives SF 364, Supply Discrepancy Report (SDR), they must notify responsible persons of deficiencies. They must train their personnel to correct deficiencies.

8.3. Damage Control in Receiving Activities. When you receive a shipment, check to:

8.3.1. Determine if damage occurred during transit.

8.3.2. Determine if the item is packaged according to the prescribed packaging requirements.

8.3.3. Ensure adequate packaging is at the proper level to prevent corrosion or deterioration during storage.

8.4. Procedures for Stored Items. DOD Regulation 4145.19-1, *Storage and Materials Handling*, includes procedures for inspecting stored items.

8.5. Damage to Issues. A major source of damage to delicate items is intrabase transfer. Protect items that are subject to damage from shock and vibration during handling and movement.

8.6. Discrepancy Reporting. When you note shipment damage, packaging deficiencies and container marking problems, make the necessary corrections. Report item and packaging discrepancies using SF 364. Ensure a copy of the SDR is provided to the prime ALC packaging office. See AFJMAN 23-215, Reporting of Item and Packaging Discrepancies and **Attachment 5** of this instruction for additional guidance.

8.7. Control Points. AFJMAN 23-215 establishes control points for distributing packaging discrepancy reports.

8.8. Packaging Cost Control. Major commands must establish procedures to ensure that all bases under their jurisdiction include necessary packaging requirements for all procurements.

8.8.1. Local Purchase Items. As a rule, code items bought at base level for local purchase (LP). They are for immediate use. In most cases, the vendor or manufacturer standard packaging adequately protects these items; you may use this packaging if it meets DOT requirements and safety standards. Purchasing documents for LP materiel must contain the statement: "Military packaging is not required." The packaging provided must protect the item to destination and conform to applicable DOT or intr-

astate regulations. This statement permits rejection of substandard packaging at delivery based on DOT regulations.

8.8.2. Packaging Economy. Commanders must emphasize to base personnel that protection of materiel enroute to the warfighters is paramount. The importance of proper packaging and use of economical packaging techniques can save significant Operations & Maintenance (O&M) funds while minimizing the creation of solid waste. Emphasize this philosophy in command publications and correspondence and during staff visits to the bases. Examples of areas where economies and improvements may be put into effect are:

8.8.2.1. Recovery and re-use of serviceable reusable containers and packaging materials.

8.8.2.2. Keeping specially designed packs for reshipment or return of items to the using or repair activity.

8.8.2.3. Standardizing the number and types of packaging materials purchased.

8.8.2.4. Ensuring that units use materiel for its intended purpose.

8.8.2.5. Anticipating long term requirements for reusable containers and packaging materials so units can purchase them in larger, more economical quantities.

8.8.2.6. Using the lowest acceptable levels of preservation and packing to meet the anticipated distribution and logistics cycle.

8.8.3. Suggestions for Improved Packaging. Identify approved or more economical packaging methods, materials, and techniques by use of SF 364 reports. When submitting a suggestion recommending an improved pack for a specific national stock number, attach a SF 364 along with supporting photographs if possible that shows the packaging deficiency referenced and its cause.

Chapter 9

PACKAGING TRAINING

9.1. Functional Requirements. To assume maximum effective use of scarce material resources, each commander must insure that personnel performing packaging functions related to purchasing, inspection, shipment, and storage operations are trained in Air Force packaging methods and procedures.

9.2. School of Military Packaging Technology (SMPT). SMPT, Aberdeen Proving Ground, Maryland, provides military packaging training.

9.2.1. Resident Training. Contact SMPT for course listings. General syllabus:

9.2.1.1. Preservation.

9.2.1.2. Packaging and Unitization.

9.2.1.3. Packaging Hazardous Materials for Transportation.

9.2.1.4. Packaging Design.

9.2.1.5. Marking for Shipment and Storage.

9.2.1.6. Defense Packaging for Logistics Managers.

9.2.1.7. Handling Electrostatic Discharge Sensitive (ESDS) Items.

9.2.2. On-Site Training.

9.2.2.1. Air Force installations wanting to host an SMPT on-site course can send their requests through HQ Air Education and Training Command (HQ AETC/TTMS), Randolph AFB TX 78148-5000. Indicate the course and number of students.

9.2.2.2. Send annual training requirements to HQ AETC during the survey period for the following fiscal year's training requirements. Each SMPT on-site course requires a minimum signup of 25 students.

Chapter 10

SAFETY

10.1. Hazards . All managers and supervisors must incorporate Operational Risk Management (ORM) within the workplace. Identify, eliminate or control, and document hazards to minimize risk associated with uncertainty in the decision-making process. Additional guidance can be found in AFI 90-901, *Operational Risk Management Program*, and AFPAM 90-902, *Operational Risk Management Guidelines and Tools*. Managers and supervisors at all levels must recognize the sources of hazards and apply appropriate safety practices to avoid injuries to personnel and damage to equipment by following Wing established procedures and directives, asking for help when needed, and using the appropriate personnel protective equipment (PPE) IAW AFOSH-STD-91-501, *Air Force Consolidated Occupational Safety Standard*. Control potential physical, fire, and health hazards by proper training prior to job accomplishment, appropriate work procedures, and supervisory controls IAW AFOSH-STD-161-21, *Hazard Communication*.

10.2. Hazard Abatement Program. Implement and follow the Air Force Hazard Abatement Program to protect all Air Force personnel from work-related deaths, injuries, and occupational illnesses. Under this program, personnel identify potential hazards within the work environment. After hazards have been identified, determine the adequacy of current directives and procedures, provide appropriate training to affected personnel, and provide a method to track and control the training and hazard correction/abatement processes. See **Attachment 7** for appropriate AFOSH standards, TOs, and other applicable directives. Document safety plans, actions, hazards, and personnel training with the appropriate AF forms listed below.

10.2.1. AF Form 3, **Hazard Abatement Plan**; AFI 91-301, *USAF Occupational and Environmental Safety, Fire Prevention, and Health (AFOSH)Program*.

10.2.2. AF Form 55, **Employee Safety and Health Record**; AFI 91-301.

10.2.3. AF Form 457, **USAF Hazard Report**; AFI 91-202, *USAF Mishap Prevention Program*.

10.2.4. AF Form 1118, **Notice of Hazard**; AFI 91-301.

10.3. Air Force Mishap Prevention Program. Implement and follow the Air Force Mishap Prevention Program to protect Air Force resources. All Air Force personnel have the responsibility under the mishap prevention program to identify workplace hazards, to include equipment and environmental situations that places Air Force personnel, equipment, or facilities at risk. After hazards have been identified, assess the risks associated with each hazard, determine and take action(s) needed to reduce the risk by: engineering the hazard out; or imposing procedural actions (operational limits, frequent inspections, protective equipment, or stopping until corrective action is taken); and/or educating and training personnel on the hazards and the safety procedures to be followed to reduce the chances of a mishap occurring. See **Attachment 7** for appropriate AF instructions, AFOSH standards, TOs, and other applicable directives. Ensure all personnel receive safety, fire protection, and health on-the job training upon initial assignment and whenever there is a change in equipment, procedures, processes or safety, fire protection, and health requirements. Well-trained and educated personnel are the greatest deterrent to mishaps in the workplace. Supervisor's document safety-related training on AF Form 55, **Employee Safety and Health Record**, or other form/automated system approved by the Chief, Ground Safety, IAW AFI 91-301.

10.4. Safety Inspections . Accomplish hazard assessment and identification through the application of occupational safety, fire prevention, and health inspections, evaluations, and surveys. Supervisors perform self-inspections to assess the safety environment of the unit. Most AFOSH standards contain sample checklists for unit self-inspections. Also, use locally developed checklists tailored to specific unit requirements. Wing or base-level safety, bioenvironmental engineering, fire protection, and environmental inspectors conduct unit inspections, evaluations, and surveys according to AFI 91-301 and AFI 32-7086, *Hazardous Materials Management*.

10.4.1. Occupational Safety and Health Administration (OSHA) officials, as representatives of the Secretary of Labor may conduct inspections of nonmilitary-unique workplaces and operations where Air Force civilian personnel work. (The inspections may be unannounced). OSHA inspectors may question or privately interview any employee, supervisory employee, or official in charge of an operation or workplace.

10.4.2. Federal OSHA officials may perform OSH inspections of Air Force workplaces in areas where the US holds exclusive federal jurisdiction (including government owned contractor operated facilities).

10.4.3. State OSHA officials, operating under a federally approved plan and subject to the terms of any variance, tolerance, or exemption granted by the Department of Labor, may enforce state OSHA standards in contractor workplaces. At overseas locations, local government agencies may conduct inspections of contractor facilities or operations as stipulated in the status of forces or country-to-country agreement IAW AFI 91-301.

10.5. General Safety Guidance . Packaging and preservation personnel are exposed to a large variety of hazardous situations, machinery, equipment, and chemicals. Most hazardous situations can be avoided by simply following procedures, asking for help when needed, and using personal protective equipment (PPE). Supervisors must be knowledgeable of the AFOSH Standards, TOs, and AF instructions applicable to their operations and ensure their personnel are educated on the safety requirements applicable to the job. Personnel work more safely and effectively when properly trained and motivated. For example, ensure personnel who work with hazardous chemical are trained as outlined in AFOSH-STD-91-501 on personal protective equipment.

10.5.1. Use the general work center safety guidance in AFOSH-STD 91-66, *General Industrial Operations*, and local instructions. Follow AFOSH-STD-91-66 for safe practices in operation and maintenance of base facilities, such as, buildings and grounds, general housekeeping, ladders, office safety practices, emergency eyewash and showers, and finger ring policies. It also addresses safety precautions for electrical facilities and electronic equipment, such as, electrical emergency equipment, protective equipment, fire prevention, cardiopulmonary resuscitation (CPR), first aid training, clothing and jewelry. It also contains guidance for tool safety, material handling, fall protection, housekeeping, and operation and maintenance of compressed air systems.

10.6. Work Safety Guidance . Follow safety guidance found in AFOSH-STD-91-66 and equipment TOs. AFOSH-STD-91-66 contains safety guidance for general housekeeping and office safety principles. See **Attachment 7** for AFOSH standards applicable to packaging and preservation activities.

10.6.1. Adhere to AFOSH-STD-91-501 for requirements on safe operation, inspection and maintenance of industrial machinery. Packaging and preservation personnel must inspect equipment prior to use. Supervisors are required to instruct machine operators on the proper use, inspection, maintenance

and documentation requirements. Industrial machines will be scheduled for preventive maintenance (inspection and minor maintenance) on a weekly basis, the AFTO Form 244, **Industrial/Support Equipment Record**, will be used to document inspection and maintenance action requirements and accomplishments. Documentation will be accomplished using T.O 34-1-3, *Machinery and Shop Equipment*.

10.7. Flight Line Driving . Motor vehicles operating on the flight line present a clear and possible danger to aircraft, equipment, and ground personnel. Guard against carelessness, haste, and disregard of safety standards. These factors are the primary sources of collisions and personnel injury. All operators of vehicles on the flightline must first obtain training and possess a valid flightline driving permit. Follow the general safety requirements for flight line vehicle operations found in AFOSH-STD 91-100, *Aircraft Flight Line Ground Operations and Activities* and AFJMAN 24-306, *Manual for the Wheeled Vehicle Driver*, AFI 13-213*, Airfield Management and Base Operations*, and local instructions. Familiarize all personnel authorized to operate vehicles on the flight line with the aircraft marshaling signals found in AFI 11-218, *Aircraft Operations and Movement on the Ground.*

10.8. AFOSH Guidance . Use AFOSH standards where federal standards either do not exist, do not adequately cover a function, contain less stringent criteria, or when consolidation of information is beneficial for use in the workplace. Use Air Force functional directives and technical data in conjunction with AFOSH standards. If conflicting guidance exists, the weapon system specific technical data will take precedence. See **Attachment 7** for AFOSH standards applicable to packaging and preservation activities.

10.9. Lockout and Tagout Concept . Use procedures to isolate machinery or equipment (in off-equipment areas) from all potentially hazardous energy. When the unexpected energizing, startup, or release of stored energy could cause injury, machinery or equipment is locked out or tagged out before qualified personnel perform any servicing or maintenance. Instruct all personnel in the safety significance of lockout or tagout procedures. Find complete guidance for instituting an effective program for Hazardous Energy Control and Mishap Prevention Signs and Tags in AFOSH-STD 91-501.

10.10. Safety Equipment . Hazards should be engineered out, isolated, guarded against or a safer chemical used as a substitute whenever possible before considering the use of personal protective equipment (PPE). PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering or administrative controls. When PPE is required, ensure personnel are provide the appropriate PPE for the hazard and are trained in its use, inspection and care. Contact the installation ground safety or bioenvironmental engineering staff for assistance in the selection of PPE. Review AFOSH-STD-91-501 for additional information on personal protective equipment.

Chapter 11

OTHER ADMINISTRATIVE REQUIREMENT

11.1. Information Collections. No information collections are created by this publication.

11.2. Records. Ensure all records created by this AFI are maintained and disposed of IAW AFMAN 37-139, "Records Disposition Schedule."

11.3. Forms Prescribed.

11.3.1. Adopted Forms. DD Form 448, **Military Interdepartment Purchase Request**, DD Form 1348-1A, **Issue Release/Receipt Document**, DD Form 2169, **Special Packaging Instructions (SPI)**, DD 2332, **Product Quality Deficiency Report Exhibit,** AF Form 406, **Miscellaneous Obligation Reimbursement Document (MORD)**, AF Form 616, **Fund Cite Authorization (FCA)**, AF Form 3,**Hazard Abatement Plan**, AF Form 55, **Employee Safety and Health Record**, AF Form 457, **USAF Hazard Report**, AF Form 1118, **Notice of Hazard**, SF Form 364, **Supply Discrepancy Report (SDR)**.

11.3.2. Prescribed Forms. AF Form 451, **Request for Packaging Services**

11.3.2. (62AW) Prescribed Forms. DD Form 1348-1A- **Issue Release/Receipt Documents**

MICHAEL E. ZETTLER, Lt General, USAF
DCS/Installations & Logistics

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 11,218, *Aircraft Operations and Movement on the Ground*

AFI 13-213*, Airfield Management and Base Operations*

AFI 24-201, *Cargo Movement*

AFI 24-202, *Preservation and Packing*

AFI 32-7086, *Hazardous Materials Management*

AFI 90-901, *Operational Risk Management Program*

AFI 91-202, *USAF Mishap Prevention Program*

AFI 91-301, *USAF Occupational and Environmental Safety, Fire Prevention, and Health (AFOSH)Program*

AFJMAN 24-206 **(JDP)** , *Packaging of Materiel*

AFJMAN 24-306, *Manual for the Wheeled Vehicle Driver*,

AFMAN 23-110, *USAF Supply Manual*

AFJMAN 23-215, *Reporting of Item and Packaging Deficiencies*

AFMAN 24-204**(I),** *Preparing Hazardous Materials for Military Air Shipment*

AFOSH-STD 91-66, *General Industrial Operations*

AFOSH-STD-91-100, *Aircraft Flight Line Ground Operations and Activities*

AFOSH-STD-91-501, *Air Force Consolidated Occupational Safety Standard*

AFOSH-STD-161-21, *Hazard Communication*

AFPAM 90-902, *Operational Risk Management Guidelines and Tools*

DOD 4145.19-1, *Storage and Materials Handling*

DOD 4500.9-R, *Defense Transportation Regulation*

MIL-HDBK-701, *Blocking, Bracing and Skidding of Industrial Plant Equipment for Shipment and Storage*

MIL-HDBK-774, *Palletized Unit Loads*

MIL-STD-107, *Preparation and Handling of Industrial Plant Equipment*

MIL-STD-129, *Department of Defense Standard Practice Military Marking*

MIL-STD-2073-1, *Standard Practice for Military Packaging*

PPP-B-1672, *Box, Shipping, Reusable with Cushioning*

TO 00-25-234, *General Shop Practice Requirements for Repair, Maintenance, and Test of Electronic Equipment*

TO 11A-1-46, *Firefighting Guidance, Transportation, and Storage Management Data and Ammunition Complete Round Chart*

T.O 34-1-3, *Machinery and Shop Equipment*

TO 35-D-33-2-2-2, *Instructions with Parts Breakdown, 463L Air Cargo Pallets, Types HCU-12/E (Brownline Corporation)*

TO 00-85-B-3, *How to Package Air Force Spares*

Abbreviations and Acronyms

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFOSH—Air Force Occupational Safety and Health

AFPTEF—Air Force Packaging Technology & Engineering Facility

ALC—Air Logistic Center

CFR—Code Federal Regulations

CONUS—Continental United States

DIFM —Due-In From Maintenance

DOD—Department of Defense

DODAAC—Department of Defense Address Activity Code

DRMO—Defense Reutilization and Marketing Office

DRU—Direct Reporting Unit

DSN—Defense Switch Network

DTR—Defense Transportation Regulation

EPA—Environmental Protection Agency

ESD—Electrostatic Discharge

EU—European Union

FOA—Field Operating Agency

FMS—Foreign Military Sales

HMIRS—Hazardous Materials Information Resource System

HT—Heat Treated

IPE—Industrial Plant Equipment

KD—Kiln Dried

LRS—Logistics Readiness Squadron

MAJCOM—Major Command

MAP—Military Assistance Program

MIPR—Military Interdepartment Purchase Request

MOA—Memorandum of Agreement

MORD—Miscellaneous Obligation Reimbursement Document

MRSP—Mobility Readiness Spares Package

MTMC—Military Traffic Management Command

NMWPM—Non-manufactured Wood Packaging Materials

NSN—National/Nato Stock Number

ORM—Operational Risk Management

OSHA—Occupational Safety and Health Association

P&C—Packing and Crating

RCP—Reusable Container Program

RIC—Routing Identifier Code

RSO—Radiation Safety Officer

SBSS—Standard Base Supply System

SPI—Special Packaging Instruction

TO—Technical Order

TMO—Traffic Management Office

TRC—Technology Repair Center

USAF—Unites States Air Force

WRM—War Reserve Materiel

999 and 777 —Priority indicators expressing urgency of movement

Terms

Commercial Packaging—The packaging methods and materials normally used by the commercial supplier.

Container Design Retrieval System (CDRS)—A management system program application located at ASC/YHC, Eglin AFB FL. It provides a DOD centralized data base for storing, retrieving, and analyzing existing container designs and test information concerning specialized containers. Using CDRS avoids duplication of specialized container designs and promotes re-use. Military Standard (MIL-STD) 2073-1, Appendix H, *Procedures for Compliance with Container Design Retrieval System (CDRS) Requirements*, govern the CDRS.

Consolidation—Is accomplished by placing the unit packages into a larger container. Consolidation containers may be constructed of fiberboard, paper overlaid veneer, plywood or lumber. They may be demountable or nondemountable and are usually secured to a pallet or to a skidded base. Some consolidation containers are designed to be compatible with the requirements of the 463L Materials Handling System. Others are designed to be used as inserts in transporters (i.e. CONEX/ISOs, MILVANS or SEAVANS) or to be used as a separate shipping container.

Corrosion—Deterioration of material due to electrochemical or chemical attack resulting from exposure to natural or induced environmental conditions or from the destructive attack of fungi or bacteria.

Damage—Breakage, denting, marring, distortion, displacement, or abrasion of an item. The term also applies to the malfunction or inaccuracy of an item having mechanically, electrically, or electronically functioning parts or requiring calibration.

Deterioration—The gradual decline or impairment of an items serviceability, quality, value, or usefulness.

Electrostatic Discharge (ESD)—A transfer of electrostatic charge between bodies at different electrostatic potentials, caused by direct contact or induced by an electrostatic field. Very damaging to electrical components

Electrostatic Discharge Sensitive (ESDS) Items—Parts or assemblies that are sensitive to ESD damage.

Fast Pack—A family of standard, short-life, reusable, cushioned containers. Fast pack design permits shipment of a large number of different items within certain limits of size, weight, configuration, fragility, and environmentally sensitive characteristics. See Federal Specification PPP-B-1672, Boxes, Shipping, Reusable with Cushioning and Technical Order (TO) 00-85B-3, How to Package Air Force Spares.

Hazardous Material or Regulated Material—A substance or material that the Secretary of Transportation has determined to be capable of posing unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated. This includes all items listed as hazardous in Title 49, Code of Federal Regulations (CFR), and AFMAN 24-204(I), Preparing Hazardous Materials for Military Air Shipments.

Hazardous Waste—Any material that is subject to the hazardous waste manifest requirements of the Environmental Protection Agency (EPA) specified in 40 CFR, part 263, and as defined in 40 CFR 261.3.

Packaging—Preparing materiel for distribution, transportation, storage and delivery to the user. The term includes preservation, wrapping, cushioning, packing, marking and unitizing.

Palletization—Is the most common method of unitization because of its broader application in the field. MIL-HDBK-774, issued for guidance purposes only, describes the application for standard pallets and contains information such as box patterns, weight limits and height/overhang limits.

Preservation—Applying protective measures to prevent deterioration, including cleaning, drying, using preservatives, barrier materials, cushioning and containers, when necessary.

Repairable (Reparable) Item—An item which, by the application of engineering, economic and other factors could be reasonably reconditioned or restored to a serviceable condition through regular repair processes. Identify depot-repairable Air Force items on the shipping document with the Expendability, Recoverability and Reparability Category (ERRC) Codes C,S or T or by ERRC designators XD1, XD2, ND2, or on the package with a materiel condition tag/label.

Reusable Container—A shipping container that can be recovered and re-used without impairment of its protective function and which can be repaired, refurbished to prolong its life; or modified or retrofitted to adapt it for shipment of items other than that for which it was originally intended.

Scrap—Wood and fiberboard packaging materials and containers for which the cost of recovery exceeds the value to the government for re-use.

Special Packaging Instruction (SPI—)- SPI drawings are detailed packaging instructions, accompanied with a 3-D drawing (graphic), used to construct packages/containers for items requiring special preservation, packing and protection. A SPI drawing generally depicts details for special blocking, bracing, cushioning, shock mounts, tiedown devices and positioning of the item in the package/container. Additionally, a SPI illustrates packaging requirements for one item or a limited group of items of the same form, fit and function. SPIs are prepared on DD Form 2169, **Special Packaging Instructions**, IAW MIL-STD-2073-1.

Special Packaging Instructions Retrieval & Exchange System (SPIRES)—The SPIRES is used as the Air Force electronic library (repository) for Air Force managed and contractor inventory control points weapon system support SPIs. The Air Force SPI program, which encompasses the process necessary to develop a SPI into service, includes the identification of the item packaging requirements (fragility, design, form, fit and function), the computer graphic development and illustration of the SPI, exchange of the SPI into SPIRES, retrieval of the SPI for base/unit mission support.

Standard Pack—A pack for which the method of preservation, packaging materials and the shipping container have been standardized. Generally, items chosen for standard packs require less cushioning than those that need fast packs.

Technology Repair Center (TRC)—An Air Force facility designated to repair, modify or otherwise process a specific asset or weapon system.

Unitization—Unitization is the grouping of like or unlike items for shipment kept together as a unit until they are received by the user. Unitization is practiced by two basic methods, which are palletization and consolidation. The advantages are reduced damage, increased safety from handling, reduced pilferage and efficient utilization of space.

Attachment 1 (62AW)

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

Abbreviations and Acronyms (62AW)

SPI—Special Packaging Instructions

NSN—National Stock Number

Attachment 2

AIR FORCE PACKING LEVELS OF PROTECTION

A2.1. Determining asset protection requirements. The following factors are to be considered when determining the individual asset protection requirements:

A2.1.1. Intended use (immediate use or storage).

A2.1.2. Destination (CONUS or overseas).

A2.1.3. Mode of movement (air or surface).

A2.1.4. Projected storage type (indoor or outdoor) and known weather patterns (i.e., extreme heat, cold, rain) that may affect asset serviceability.

A2.2. Personal Experience. In addition to the above, the Packaging Specialist may draw on personal expertise and/or any other available technical information when determining appropriate packaging levels.

A2.3. Retrograde Materiel. Retrograde materiel (serviceable and unserviceable) will be packaged to maintain the degree of serviceability and protection of the materiel being returned.

A2.4. Levels of protection.

A2.4.1. Level A. Packing protection required to meet the most severe worldwide shipment, handling and storage conditions. A Level A pack must, in tandem with the applied preservative, be capable of protecting materiel from the effects of direct exposure to extremes of climate, transportation, terrain and operational environments.

A2.4.2. Level B. Packing protection required to moderate worldwide shipment, handling and storage conditions. A Level B pack must, in tandem with the applied preservative, be capable of protecting materiel from the effects of indirect exposure to extremes of climate, transportation, terrain and operational environments.

Figure A2.1. AF Recommended Levels of Packaging Protection.

AF RECOMMENDED LEVELS OF PACKAGING PROTECTION	PACK
SECURITY ASSISTANCE / FMS / GRANT AID (UNLESS OTHERWISE DIRECTED BY COUNTRY)	B
WAR RESERVE MATERIEL	A
WAR RESERVE MATERIEL (<=25 LBS and <= 1 CU')	B
DELIVERY TO WHOLESALE DEPOT STOCK / CONUS INDOOR STORAGE	B
CONUS / OVERSEAS NMCS / 999 / 777	B
CONUS / OVERSEAS OUTDOOR STORAGE	A
OVERSEAS AIR MOVEMENT	B
OVERSEAS COVERED STORAGE	B
OVERSEAS SURFACE MOVEMENT	A
MOBILIZATION	A
STRATEGIC AND THEATRE DEPLOYMENT AND EMPLOYMENT	A

Attachment 3

PROCEDURES FOR COMPLETING AF FORM 451, REQUEST FOR PACKAGING SERVICES

A3.1. Instructions for Completing AF Form 451. All entries on AF Form 451 may be handwritten. The below guidance corresponds to the numbers shown on the AF Form 451.

A3.1. (62AW) AF Form, Request for Packaging Service. The using activities will fill out items 1, 2, 4, 5, 6, 8, 10c, 10d, 10e, 12, 13, and 14. The 62 LRS/LGRDC representatives will fill out remaining blocks.

Figure A3.1. (Added-62AW) Request for Packaging Service.

REQUEST FOR PACKAGING SERVICE			DATE	PRIORITY	REQUEST NO. 3
TO: 4			FROM:		
SHIPPING DOCUMENT NO.			ISSUE DOCUMENT NO.		
Request the following packaging materials be procured. I understand special boxes are not to be requested when standard boxes can be used. I have tried to secure reusable containers as prescribed in AFR 71-9.					
REASON FOR REQUEST			ITEM REQUESTED		
	CONTAINER DESTROYED BY USER.		TPO PACK		CRATE(s)
	ITEM ISSUED WITHOUT PROPER CONTAINER.		BOX(es)		SKID(s)
	ITEM DUE OUT-REPLACEMENT NOT RECEIVED.		SPECIFICATIONS		
	INITIAL REQUIREMENT		QUANTITY	UNIT	SPEC/TPO NO.
	OTHER (Specify)		NSN	NOMENCLATURE	
PURPOSE					
	DOMESTIC				
	EXPORT SHIPMENTS		LENGTH	WIDTH	DEPTH
	STORAGE				
BLDG NO.		PHONE NO.	SIGNATURE OF REQUESTER		
FOR USE BY PACKAGING PERSONNEL					
15 COSTS		REMARKS			
MANPOWER	$				
MATERIAL	$				
TOTAL	$				

AF FORM 451, 19770201 (EF-V2)

A3.1.1. (Number 1). Date. Enter the date that you initiate the form.

A3.1.2. (Number 2). Priority. Enter the supply priority and required delivery date assigned to the shipping document. If the request is not for a shipment, enter the date that you need the service.

A3.1.3. (Number 4). To. Enter the organization symbol or name of the packing and crating activity.

A3.1.3. (62AW) (Number 3) Request No. Entered by 62 LRS/LGRDC representatives.

A3.1.4. (Number 3). Request No. Use this block (packing and crating activities) for document control purposes. The number of copies required of AF Form 451 will depend on local requirements. A minimum of five copies is recommended. Three copies are provided to the Packaging and Preservation section. The original should remain with the item until packaging is completed. Another copy should be used for document control purposes. Document control request numbers should be assigned as requests are received. Recommend numbers be assigned in ascending sequence for 1 year, starting at the beginning of each calendar year. Document control copies are not required if a request control log is maintained. Request control logs, as a minimum, should reflect information from blocks 1, 3, 5, 9, 10, and the date completed from block 16. If a log is maintained, original copies should be filed, in request number sequence, after the packaging service is completed. If a copy is maintained for document control purposes, it may be replaced with the original after the packaging service is completed. Analysis of completed requests will provide management information to evaluate reusable container program deficiencies and trends, and to provide a basis for corrective action.

A3.1.4. (62AW) (Number 4) To. 62 LRS/LGRDC

A3.1.5. (Number 5). From. Enter the organization symbol or name of the activity initiating the request. If the form is prepared during the supply turn-in process, enter the symbol or name of the activity turning-in the item. Do not enter the symbol or name of the supply activity unless the item is being shipped (or packaged for storage) from supply stock. Enter the name of the person to contact for information on the request.

A3.1.6. (Number 6). Shipping Document No. Enter the Transportation Control Number (TCN) from accompanying documents. If none is available, enter not applicable (N/A).

A3.1.7. (Number 7). Issue Document No. Enter the supply document number from accompanying document. If none is available, enter N/A.

A3.1.8. (Number 8). Reason for Request. Check the applicable block, as follows:

A3.1.8.1. Container Destroyed by User. Check this block when reusable container has been disposed of by the user according to local procedures, and a replacement is not available from reusable container program resources. If the required SPI container is the long-life variety, attach a copy of the document used to turn the unserviceable container in to supply. This block may be checked for containers needed to replace containers, which have deteriorated in storage.

A3.1.8.2. Item Issued Without Proper Container. Check this block when turning in an unserviceable reparable, and the correct SPI container was not issued with the serviceable replacement item. If the serviceable item was received in another service's pack, a contractor's reusable pack, or a pack marked with an ALC deviation number in the lower right corner of the container, it may be used for shipment or storage.

A3.1.8.3. Item Due-Out Replacement Not Received. Check this block for Credit Due-In from Maintenance turn-ins when the SPI pack is not available through supply or reusable container program resources. If this block is checked, write "turn-in" in block 16.

A3.1.8.4. Initial Requirement. Check this block when items are turned in, containers are not available, and replacement items are received in a different SPI pack or no replacement item is required.

A3.1.8.5. Other. Check this block and specify the reason for the request when the circumstance is not covered in the blocks above. Examples: proper SPI container cannot be located for shipment

of an asset, containers not available through supply, one-time-only, blocking and bracing, pallet repair, handling devices, etc.

A3.1.9. (Number 9). Item Requested. Check the applicable block to indicate the type of container required. Note that TPO Pack has been changed to SPI Pack.

A3.1.10. (Number 10). Specifications. Enter the applicable information in the blocks below. When additional information is needed to describe the service requested, attach the information in sufficient detail to the original copy of the AF Form 451 and write "details attached" in the remarks block.

A3.1.10.1. Quantity. Enter the number of units required.

A3.1.10.2. Unit. Enter each, pieces, bags, or any other descriptive unit of issue.

A3.1.10.3. Spec/SPI No. Enter the specification number or SPI number. If the SPI number is not known, enter the item NSN. The packaging activity will determine the SPI number required for the item, and enter the number. If the service required is not covered by a specification or SPI, enter N/A.

A3.1.10.4. NSN. Enter part number when an NSN is not available. This block may be blank if an SPI number is entered above.

A3.1.10.5. Nomenclature. Enter the name of the item or service requested if none of the blocks in item 9 is checked.

A3.1.10.6. Length, Width, and Depth. Enter the measurements of the item requested.

A3.1.11. (Number 11). Purpose. Check the applicable block to indicate the item destinations. These blocks do not need to be checked when a complete shipping document is provided.

A3.1.12. (Number 12). Bldg. No. Enter the building number of the requesting activity if the container or item is to be delivered upon completion.

A3.1.13. (Number 13). Phone No. Enter the phone number of the person to contact for information on the request, or if pick-up delivery is indicated.

A3.1.14. (Number 14). Signature of Requester. Have the persons authorized to initiate AF Forms 451, as designated in this AFI and local supplemental implementing regulations, sign this block.

A3.1.15. (Number 15). Costs. Complete these blocks when required by local implementing regulations.

A3.1.15. (62AW) (Number 15) Costs. Enter total costs of manpower and material.

A3.1.16. (Number 16). Remarks. Enter the date the service is completed, required completion date, or other needed information.

Attachment 4

IDENTIFYING AND ORDERING SPIS AND REQUESTING SPI WAIVER AUTHORITY TO DEVIATE

A4.1. Identifying and Ordering SPIs.

A4.1.1. Special Packaging Instructions Retrieval & Exchange System (SPIRES).

A4.1.1.1. SPIRES shall be used as the AF centralized electronic library for AF managed and AF contractor inventory control points (ICPs) for weapon system support SPIs. SPIRES is used worldwide by AF units of varying types with varying missions. SPIRES is available 24 hours a day on the internet.

A4.1.1.2. If the TMO has access to the internet to retrieve the required SPIs, then SPIs can be available for download as needed at **https://spires.wpafb.af.mil**.

A4.1.1.3. Depot developers and contractor ICPs can exchange SPIs in SPIRES. Copies of SPIs can be exchanged in AutoCad and Microsoft Word formats and retrieved in Microsoft Word format. SPIs can be queried by many different attributes (e.g. SPI No., NSN, FSC, NIIN, MMAC and SOS).

A4.1.1.4. The SPIRES database stores and displays information from the depot D035T (Packaging, Transportation and Regulated Material) item records along with SPI attributes exchanged by the depot developers who draw up the SPIs. This data system interface process enables any discrepancies or data inconsistencies to be flagged for resolution by the prime ALC packaging office.

A4.1.1.5. At the Chief's, Distribution Flight, discretion, weapon system specific SPIs which are commonly used may be locally maintained for mobility, contingency planning and operational non-availability of computer resources (downtime). The prime ALC packaging office can assist if there are any questions about SPIs.

NOTE: Maintaining SPI libraries and performing SPI reconciliation at Base-level is no longer required.

A4.1.2. The A-D035T-801-QT-L09 and A-D035T-802-QT-L09, Quarterly SPI/Stock Number Cross-Reference microfiche products, provide SPI to Stock Number (801) and Stock Number to SPI (802) cross reference.

NOTE: These products replace A-O01338A-Q2-G68 microfiche.

A4.1.2.1. Automatic quarterly distribution of the SPI/Stock Number Cross-Reference List will be provided only to organizations that are established users. All Air Force base Distribution Flight P&C activities are encouraged to request and use this list. Air Force base units, such as host/tenant units and maintenance shops, can request copies of the list through their base Distribution Flight. To order the SPI/Stock Number Cross-Reference List, send requests to OO-ALC/TIDB, 5851 F AVE, HILL AFB UT 84056-5713.

A4.1.3. Jet and reciprocating aircraft engines, and certain munitions, are exceptions to the SPI system. TO 00-85-20, *Engine Shipping Instructions*, identifies containers for engines.

A4.1.4. The Standard Base Supply System (SBSS) stores SPI numbers as part of the item record, and prints them in-the-clear on off-base issue, due-out release, and shipment documents. SBSS receives the SPI number through the Stock Number User Directory (SNUD) and depot D035T interface.

A4.1.4.1. The SBSS computer will store and print SPI numbers and other packaging instructions in "Freight Classification Nomenclature" block of the DD Form 1348-1A. These entries will be followed by the Routing Identifier Code (RIC) of the prime ALC managing the SPI.

A4.1.4.2. The SBSS provides the following SPI information:

A4.1.4.2.1. SPI number. Ten-alphanumeric positions followed by the RIC. For example, SPI F003036728 FHZ.

A4.1.4.2.2. Fast pack SPI number. Ten alphanumeric positions. For example, the preservation and pack code (the third from last position) will always be an "X" preceded by the preservation code and five zeros: F000004XC1 (RIC).

A4.1.4.2.3. Standard pack SPI number. Ten alphanumeric positions. For example, the preservation code, simple instruction code, and container size code preceded by five zeros: F000004C01 (RIC).

A4.1.4.3. The SBSS report product, SO2/NGV847, "Special Packaging Instruction Reconciliation," identifies and lists SPIs for use by the Distribution Flight to verify the accuracy of the SPI file (if a hard copy SPI file is utilized). The S02 output product serves as a useful notification tool for updated SPI revisions and effective dates. The Chief, Distribution Flight, must ensure packers' access SPIRES to verify the current SPI revision of the SPIs used. If there are any inaccuracies between the SPI revision and effective dates in SPIRES and the S02, then the SPI data in SPIRES takes precedence. The S02 output product is distributed semiannually to the Distribution Flight. Distribution Flights are encouraged to request this report quarterly.

A4.1.4.4. Management Notices. The SBSS SPI Management Data notices identifying new SPIs or realignment of NSNs to existing SPIs should be received within 30 days of SPI issue. If an SPI is not retrieved in SPIRES within 60 days, order the SPI directly from the prime ALC.

A4.1.4.5. Ordering SPIs. As required, the Distribution Flight shall take action to request updated hard copies of SPI documents directly from the prime ALC packaging office.

A4.2. Requesting SPI Waiver Authority to Deviate.

A4.2.1. Requests for SPI waiver authority to deviate can be processed by the prime ALC packaging office if no SPI is available to accomplish immediate mission support.

A4.2.2. Routing Identifier Codes (RIC), mailing and message addresses for ordering SPIs or request waiver authority to deviate are as follows:

RIC	**Mailing, DSN, Message and Internet Address**
FGZ	OO-ALC/LGMPD
	7973 Utility Drive
	Building 1135
	HILL AFB UT 84056-5306
	DSN 777-4495
	OO-ALC HILL AFB UT//LGMPD//
	https://ooport.hill.af.mil

FHZ	OC-ALC/LGITL 7701 Arnold Street, STE 112 TINKER AFB OK 73145-8912 DSN 339-2121 OC-ALC TINKER AFB OK//LGITL// **https://www-int.tinker.af.mil/lgitl/lgitl.htm**
FLZ	WR-ALC/LGMTP 455 BYRON ST BLDG 380 ROBINS AFB GA 31098-5999 DSN 468-5007 WR-ALC ROBINS AFB GA//LGMTP// **http://www.robins.af.mil/logistics/lgmt/lgmp2.htm**

Attachment 5

REQUIREMENTS FOR REPORTING DISCREPANCIES

A5.1. Compliance With Established Packaging Requirements. Unless items are damaged, SF Form 364, Supply Discrepancy Report (SDR) will not be issued against bases or ALCs under the following conditions:

A5.1.1. Items packaged before the current SPI date are acceptable and need not be repackaged before shipment.

A5.1.2. Contractor (with deviation number) or other service packages are acceptable for re-use as long as the container is a reusable, rather than one-trip, container. The managing packaging office must approve the use of a contractor pack by indicating the prime ALC and a deviation number in the lower right corner of the exterior container (for example, SM-001). When a contractor pack is used, annotate "contractor pack" on the DD Form 1348-1A, Issue Release/Receipt Document, or condition tag. Contractor packs may be recognized by the contractor data markings required by MIL-STD-129, such as purchase or delivery order and the name and address of the contractor.

A5.1.3. The managing packaging office has approved an alternate pack and has provided a deviation number.

A5.1.4. Use of the next larger size fast pack container for shipments with Uniform Materiel Movement and Issue Priority System (UMMIPS) priority 01-08 if the required Type I (Vertical) or Type II (Slide) is not available. SF Form 364 will be issued if damage occurs or if the next larger size fast pack is used for lower priority shipments.

A5.1.5. Use of larger size standard pack containers for shipment of unserviceable items when the correct size is unavailable.

A5.2. When to Complete SF Form 364. SF Form 364 will be completed if damage to the items occurs and the total cost to correct exceeds $50 or if any of the following deficiencies exist, regardless of cost to correct:

A5.2.1. Repetitive deficiencies by a particular activity or repetitive damage found upon receipt.

A5.2.2. Any deficiencies in packaging involving ammunition, explosives, or other hazardous materials.

A5.2.3. Packaging deficiencies resulting in damaged material that may endanger life or impair combat or deployment operations.

Attachment 6

AIR FORCE PACKAGING TECHNOLOGY AND ENGINEERING FACILITY (AFPTEF)

A6.1. AFPTEF Mission. The AFPTEF provides packaging engineering capabilities to the Air Force and any other DOD or federal activity. These engineering capabilities include in-house container design and prototype fabrication, contractual support for container purchases, testing of specialized, off-the-shelf, or hazardous materials containers, and test and evaluation of packaging materials and methods. AFPTEF also provides consultation support to the SPO's throughout the AF to ensure proper packaging for weapon systems at the best value to the government. For assistance contact AFPTEF at: HQ AFMC LSO/LOP, 5215 Thurlow St., Wright-Patterson AFB OH 45433-5540, DSN: 787-3362, Comm: 937-257-3362, DSN FAX: 986-1350, Comm Fax: 937-656-1350. More detailed information on AFPTEF services can be viewed at the AFPTEF website at **http://www.packweb.wpafb.af.mil**.

A6.2. Responsibilities of HQ USAF.

A6.2.1. Establish the mission and responsibilities of AFPTEF.

A6.2.2. Provide policy, direction, and guidance to ensure that all AF MAJCOMS utilize AFPTEF's services to minimize costs and maximize program benefits.

A6.3. Responsibilities of Major Commands.

A6.3.1. Ensure that all new requirements for container design, fabrication, testing, and packaging support are forwarded to AFPTEF for review of adequacy and cost effectiveness.

A6.3.2. Use AFPTEF for container engineering, design, fabrication, testing and evaluation, in lieu of contracting the work out, to reduce overall project cost.

A6.3.3. Identify and report to AFPTEF any problems with current containers, packaging/preservation methods, packaging/preservation materials, or their application for items in or entering into the AF inventory for evaluation and resolution.

A6.3.4. Maintain compatibility and maximize efficiency of AF assets by securing AFPTEF's approval before implementing new container design concepts, obtaining test equipment, using new packaging materials not previously approved for AF use, or introducing new packaging techniques for protection of items entering the Air Force inventory.

A6.3.5. Ensure that available AFPTEF capabilities and equipment are not unnecessarily duplicated.

A6.3.6. Provide AFPTEF with packaging information developed within the command. This includes copies of developmental studies and reports received from contract or organic sources.

A6.3.7. Provide AFPTEF with general cost avoidance data when using AFPTEF's assistance.

A6.3.8. Participate and assist AFPTEF in the field and service testing of new materials, equipment, procedures, and container design concepts.

A6.4. Responsibilities of Air Force Materiel Command (AFMC).

A6.4.1. Manage and direct AFPTEF consistent with Air Force Policy Directive 24-2 and this instruction.

A6.4.2. Provide personnel, funding, and facilities necessary to accomplish the AFPTEF mission.

A6.5. Responsibilities of AFPTEF.

A6.5.1. Provide container, packaging, and testing engineering, technical guidance, direction, and support to Air Force and other DOD activities.

A6.5.2. Design, develops, tests, and evaluates containers, packing materials, packing methods, systems, techniques, and preservation methods.

A6.5.2.1. Assign identification number, priority, and target completion date for each project.

A6.5.2.2. Provide project findings and recommendations to project initiator in a timely manner, to ensure that established requirements have been met.

A6.5.2.3. Coordinate project efforts with other activities having management or technical involvement.

A6.5.3. Consider environmental impacts, Occupational Safety and Health Act (OSHA) requirements, distribution environment, and costs in performing container/packaging standardization, engineering projects, and studies.

A6.5.4. Serve as custodian, review user, or preparing activity for those assigned military and industry standardization documents and technical orders directly related to containers, packaging/preservation materials and methods or processes.

A6.5.5. Review and coordinate requests from Air Force activities for equipment to support in-house packaging test, evaluation and development.

A6.5.6. Establish and maintain channels for the effective crossflow of technical packaging information within Air Force, DOD, federal agencies, and industrial organizations.

A6.5.6.1. Establish and maintain a website to act as the main channel for information sharing.

A6.5.6.2. Conduct technical seminars for exchange of data on new developments and requirements.

A6.5.6.3. Establish and maintain centralized technical packaging information files to include packaging drawings, studies, and related scientific and engineering data.

A6.5.7. Provide management and technical guidance and support to the Air Logistics Center (ALC) illustrators on the computer aided design systems (CADS) and Special Packaging Instructions (SPI).

A6.6. Procedures for Requesting AFPTEF Mission Support.

A6.6.1. Contact an AFPTEF representative to discuss your program's special requirements by:

A6.6.1.1. Visiting our website at **http://www.packweb.wpafb.af.mil** and e-mailing the AFPTEF-webmaster.

A6.6.1.2. Calling DSN 787-3362 or Commercial 937-257-3362.

A6.6.1.3. Submit a written request for support to the address above.

Attachment 7

AFOSH STANDARDS AND TECHNICAL ORDERS

Figure A7.1. AFOSH Standards and Technical Orders.

Reference	Publication or Chapter Title
AFOSH Standard 91-501	Air Force Consolidted Occupational Safety Standard
AFOSH Standard 91-32	Emergency Shower and Eyewash Units
AFOSH Standard 91-46	Materials Handling and Storage Equipment
AFOSH Standard 91-66	General Industrial Operations
AFOSH Standard 48-2	Industrial Ventilation
AFOSH Standard 48-17	Standardized Occupational Health Program
AFOSH Standard 48-20	Hearing Conservation Program
AFOSH Standard 48-2	Hazard Communication
TO 34-1-3	Inspection and maintenance of Machinery and Shop Equipment
TO 00-20-5, Chapter 7	Aerospace Vehicle Inspection and Documentation
TO 34W1-1-171	Installation, Operation, Maintenance and Inspection of Air Compressors

Attachment 8 (Added-62AW)

REUSABLE CONTAINER INVENTORY

Table A8.1. (Added-62AW) Reusable Container Inventory.

REUSABLE CONTAINER INVENTORY							
CONTAINERS	22STS	62AMXS	62MXS	62LRS	62CS	62APS	WADS
XA1							
XA2							
XA3							
XA4							
XA5							
XA6							
XC1							
XC2							
XC3							
XC4							
XC5							
XC6							
XC7							
XC8							
XC9							
XD1							

CONTAINERS	22STS	62AMXS	62MXS	62LRS	62CS	62APS	WADS
XD2							
XD3							
XE1							
XE2							
XE3							
XE4							
XE5							
XE6							
XE7							
XE8							
XE9							
XF1							
XG1							
XG2							
OTHERS							

Attachment 9 (Added-62AW)

REUSABLE CONTAINER ANALYSIS

Table A9.1. (Added-62AW) Reusable Container Analysis.

REUSABLE CONTAINER ANALYSIS					
SQUADRON	# ITEMS TURNED IN	# ITEMS WITH CONT	# ITEMS W/O CONT	COST TO REPLACE	REUSE RATE
22 STS					
62 AMXS					
62 MXS					
62 LRS					
62 CS					
62 APS					
WADS					
TOTAL				$	%